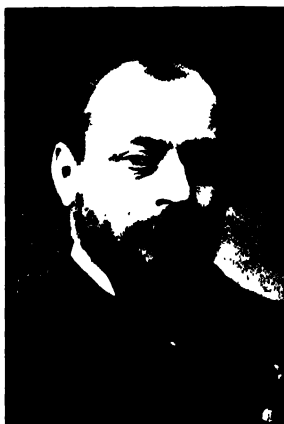
THE WORLD OF TO-DAY

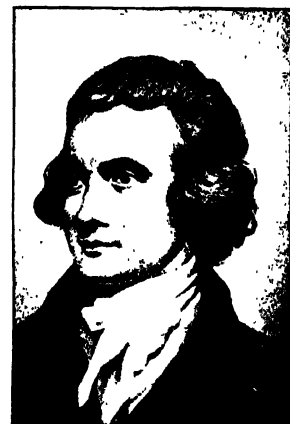
Elliott & Fry

SIR C. R. MARKHAM

Elliott & Fry

SIR A. H. MARKHAM

SIR W. E. PARRY

GUSTAV NACHTIGAL

ADOLF NORDENSKJÖLD

MUNGO PARK

N. M. PREJEVALSKY

COMMANDER R. E. PEARY

Camacho, Lisbon

SERPA PINTO

DISTINGUISHED TRAVELLERS AND EXPLORERS IV

DISTINGUISHED TRAVELLERS AND EXPLORERS—IV

Sir Clements Robert Markham (born in 1830); in navy for a time; in Peru, 1852–54; introduced cinchona into India, 1859–62; president of Royal Geographical Society, 1893–1905; K.C.B. in 1896.

Sir Albert Hastings Markham (born in 1841); admiral; commanded *Alert* in Arctic Expedition (latitude 83° 20′ 26″ N.), 1875–76; other Arctic voyages; K.C.B. in 1903.

Sir William Edward Parry (1790–1855); rear-admiral; searched for North-West Passage; reached latitude 82° 45′ N. in 1827, a record till 1876; knighted in 1829.

Gustav Nachtigal (1834–85); German traveller; Algeria and Tunis; to Fezzan, Tibesti, Bornu, Kanem, Borku, Bagirmi, Wadai, Darfur, Kordofan, and Egypt, 1869–74; secured Togoland and Kamerun for Germany, 1884.

Adolf Erik Nordenskjöld (1832–1901); Swedish traveller; explored Greenland (especially 1883), Spitzbergen (1872–73), and other Arctic lands; made North-East Passage in *Vega*, 1878–79.

Mungo Park (1771–1806); two journeys to West Africa, 1795–1799 and 1805–06; perished in conflict with the natives on the Niger.

Nikolai Michailovich Prejevalsky (1839–88); Russian traveller; army officer; China and Gobi Desert, 1870–73; Kulja to Lob-nor, Altyn-tagh, &c., 1876–77; Saisan to Khami, into Tibet, and through Sining, Urga, and Kiachta to Orenburg, 1879–80; Kiachta through Gobi and Alashan to Tsaidam, Lob-nor, Khotan, and Issyk-kul, 1883–85; died on way to Tibet.

Robert Edwin Peary (born in 1856); American explorer; naval officer; proved insularity of Greenland in 1891–92 and explored it several times; reached North Pole on April 6th, 1909.

Alexander Albert de la Roche de Serpa Pinto (1846–1900); Portuguese traveller; army officer; crossed Africa from Benguella to Durban, 1877–79; other African expeditions.

THE WORLD OF TO-DAY

A SURVEY OF THE LANDS AND PEOPLES OF THE GLOBE AS SEEN IN TRAVEL AND COMMERCE

BY A. R. HOPE MONCRIEFF

VOLUME IV

THE · GRESHAM · PUBLISHING · COMPANY
34 SOUTHAMPTON STREET STRAND LONDON

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J. Bartholomew, Edinʳ

OCEANIA

How shall we present the many islands, large and small, now to be reckoned as an independent division of the world? Map-makers were slow to recognize how all parts of the earth did not fit in to the four continents that seemed to make a complete and satisfactory sum, squaring with the four points of the compass and the four "elements" which chemistry has multiplied by more than four times four. When new lands became discovered in the Antipodes, it was at first thought to include these in the old division by christening them Australasia. But the navigators of Cook's time went on to show the Pacific dotted with islands which could not be taken as appendages of Asia; then geographers were drawn into straining language for the admission of a fifth quarter, and of a continent which differs from the other four in not being a continent.

A general name for these far-stretching groups of separated land, makes a difficult question not yet definitely settled. If we accept Australasia, we must find another title for the archipelagos of the Western Pacific, in themselves hardly important enough to rank as a sixth division. A round half-dozen is a number commending itself to British conceptions; but five also has singular respect in an older civilization, as we know from the Hindoo *punj*. On the whole, it seems best here to mass into a fifth division all lands not connected with the four old-established continents, and to call it *Oceania*, a name which tends to become stereotyped in most European geographies; while Mr. John Bull, for his part, has been not quite so ready to admit any title that goes to slur over his own Australia as the dominator of this region.

Australia is certainly the largest mass of the broken continent, whose other parts, scattered over the Pacific, lie mostly on, or not far off, various routes to our Antipodean colonies. In Cook's time there were two ocean tracks, reaching Australasia respectively on the west and the east side, of which, indeed, the prevailing winds make the first, round the Cape of Good Hope, chosen for an outward, the second for a homeward voyage. On the outward voyage, a sailing ship takes advantage of north-east trade-winds that bend her course towards South America. About the Equator she has to get through as best she can the calms, squalls, and light baffling winds of the "doldrums" or "horse latitudes" unloved by seamen; then she picks up the south-east trades, bringing her into the great westerly winds that sweep round Cape Horn and carry her gaily eastward well to the south of Africa. On this course she may sight the little island of Trinidad, opposite the Brazilian coast, and a thousand miles farther south the lonely mountain peak of Tristan d'Acunha, a self-sown British colony of about seventy people, from whom the latest news is a declaration of war against their fellow-colonists the rats, that swarm in such numbers as to prevent them from growing corn.

The islanders have no money, no law, no church, and depend even for clothing upon passing ships, in spite of which disadvantages this crew of castaways appear to live fairly well on cattle, potatoes, and sea-fowl. Their home, with its uninhabited neighbours, Nightingale and Inaccessible Islands, emerges from a submarine ridge nearly midway between Cape Horn and the Cape of Good Hope, as does the island of Gough, crowded with sea-birds, a spot on which it is hoped to work a rich mine of guano.

The other route, taken homeward, skirts the east coast of South America, after the trying turn round Cape Horn or the perilous passage through the Straits of Magellan. Steam and engineering have now given us shorter cuts.

Penguins, Inaccessible Island. (From a photograph taken on the "Challenger" Expedition.)

By the Suez Canal and the Red Sea, steamers strike south-east over the Indian Ocean, mail-boats turning a little aside to call at Colombo; or by rail across North America one may gain either San Francisco or Vancouver, both of which ports have lines to the Antipodes. A shorter and more direct route seems at last in a fair way to be opened by the completion of the Panama Canal, which will give new courses to South-Sea voyaging.

This volume will deal with Australia, New Zealand, and the countless Pacific Islands classified under the headings Melanesia, Micronesia, and Polynesia. If we somewhat arbitrarily include here Madagascar and other islands of the Indian Ocean, it is not as ignoring their relationship to Africa, but, frankly speaking, because they were "crowded out" of our volume on that continent. These islands, indeed, may be considered as standing apart, or as links between Asia and Africa. Here also will be noticed some islands and ill-ascertained shores of the Antarctic seas that open into the Pacific, Indian, and Atlantic Oceans.

MADAGASCAR AND ADJACENT ARCHIPELAGOS

Africa being so ill off for large islands, it may seem hardly fair to part from it what ranks as among the largest in the world, coming after New Guinea and Borneo. But, while separated by only some 230 miles of sea from the mainland, Madagascar's connection with Africa is remote in time; and in many respects it seems more closely related to Asia and to the Oceanic archipelagos. At al events, it makes an approach towards a new division of the globe. It might, indeed, have as well been placed with Asia, for this and other islands of the Indian Ocean appear to be the tops of a submerged continent which once stretched from Africa to the Indian Peninsula.

Madagascar is about a thousand miles long by 300 at its broadest point, its whole area being nearly twice the size of the United Kingdom. Its insular position in a warm ocean gives it a hot and damp climate, tempered in the interior by an elevation like that of Africa. Here, too, we find a low, feverish coast plain bearing luxuriant vegetation in some stretches, but often taken up by mangrove swamps, chains of lagoons, and river-courses that, flooded in the wet season, make the country almost impassable. Rising upon richly-wooded hills, one comes to an almost continuous belt of thick forest, to be passed by a day or two's struggling through tunnel-like tracks, or up the beds of intermittent torrents; and where roads have been cleared, they soon tend to be choked up again. Within this forest wall lies the interior upland, for the most part treeless and bleak, but flushed with green grass after the spring rains, and in its hollows bearing the rice that is the staple food of the people. These plains have an elevation of from 3000 to 5000 feet, giving them a more healthy climate, though to such heights also may be wafted the seeds of infection from the malarious lowlands. Plains, however, is hardly the fit name for elevated inland country, broken up by rain-scarred hills and ridges that may rise to twice the general height. The highest point, about 9000 feet, appears to be in the central group of the Ankaratra Mountains, where ice is formed upon extinct craters of volcanic fire. This is part of the backbone ridge lying towards the east side, on which the descent to the coast strip falls more abruptly than on the broader slope of the west, where also the land is drier and less productive. On this side run the longer rivers, some of them navigable a good way up. In the interior are two or three considerable lakes, one of which, Alaotra, appears to have shrunk, like so many in Africa, from much more extensive bounds.

The scenery often resembles that of equatorial Africa, especially in the forests, where huge trees struggle upwards for light, their trunks knit together by creepers, ferns and mosses flourishing under the dank shade. Here are found

a profusion of palms and bamboos, with teak, ebony, and other rich woods, and big African trees like the baobab; but the thorny growths so characteristic of the dry continent are less at home in Madagascar than exuberant blooms and leafage. The island's peculiar pride is that plant known as the Traveller's-Tree,

Forest Scene, Madagascar. (Drawn from a photograph by M. Perrot.)

from its collecting water in the hollows at the base of its fan-like leaves. Natural cisterns also are provided by the pitcher-plant, growing in showy clumps. Great stretches of marshy ground are covered with gigantic lilies, higher than a man, whose seeds can be used as food. Mangoes, guavas, pine-apples, oranges, and other fruits grow wild, with pepper, ginger, indigo, and sugar-cane. There is no want of fertile land, much of it lying waste; but, as usual in tropical regions,

Rice Cultivation on the Imerina Plateau. (From a photograph by M. Nevière.)

salubrity and fertility are apt not to go together. Some parts of the upland, watered naturally or artificially, are made to bear abundant crops of rice, maize, and manioc, among which the brick houses of the more civilized inhabitants stand fenced in by hedges of prickly-pear, or shaded by groves of fruit-trees. Potatoes and other foreign vegetables have been introduced with success. Cotton, coffee, cocoa, vanilla, tobacco, and hemp are cultivated. The less-rich areas give pasture to herds of humped cattle, goats, and sheep; then pigs, poultry, bees, and silk-worms are among the resources of the population.

Animal life in Madagascar shows that, if ever joined to Africa, its separation must be of very ancient date. Crocodiles, indeed, swarm in the rivers, as once apparently did the hippopotamus; but the elephant, the lion, the leopard, the great apes, and Africa's variety of antelopes are absent here, with almost all fierce wild beasts. The special feature of the fauna is several kinds of lemurs and allied "half-apes". Madagascar has birds, lizards, insects, and beetles known nowhere else. It once boasted gigantic birds, one of them, not long extinct, twice as tall as the ostrich. There is hardly another region so independent in its forms of life, while many of them show kinship with those of Asia, Australia, and even America rather than with African species.

The Malagasy people may have an African substratum, which some ethnologists take to be rather Melanesian; but this has been long overlaid by a Malay invasion of race and language, with traces of what seems Polynesian influence;[1]

[1] It should be remembered that some ethnologists identify the Malays with the Polynesians.

there must also be a faint strain of European and Arabic blood introduced from traders and pirates harbouring on the coast. The Malay stock appears purest in the dominant Hova tribes, who, on the central Imerina plateau, grew to some degree of organized civility under kings claiming lordship of the whole island, though without much real authority over the more barbarous clans about them, on the west side known as Sakalavas, and on the east as Betsimisarakas. All had a pagan religion of idolatry, fetishism, and witchcraft, little disturbed till early in the nineteenth century, when a band of chiefly Welsh missionaries made a bold lodgment in the country. This was under a king called Radama, who so far appreciated European intercourse as to protect the missionaries, while cultivating the friendship of the British Government and procuring arms, ammunition, and a drill instructor for the formation of an army that made him master in great part of the island. The idea of a united Madagascar under Hova rule is said to have belonged to his father Andrianampoinimerina, whose long name is still remembered by a reputation for wisdom and virtue.

Radama himself, rather a politic and ambitious than a high-principled sovereign, agreed to prohibit the export of slaves, and in other ways justified as well as extended his rule. He was succeeded by one of his wives, Ranavalona, who reversed the policy of favouring European ideas, and for a quarter of a century cruelly persecuted the Christian converts, driving out the missionaries. This reactionary policy was in turn reversed during the short reign of her son Radama II. That the kingship was no unlimited despotism is shown by the fact of this king being strangled when he proved unsatisfactory. Three queens then ruled in succession, each of them, by what soon grew into custom, married to a Mayor of the Palace or Prime Minister, in whose hands came to be gathered the reins of actual government. The first of these sovereigns, on her accession, had to sign a Malagasy Magna Charta, with religious toleration as one of its points. The second, Ranavalona II, herself became a Christian with her husband, and on their example, in 1869, the national idols were burned all over Imerina. The work of conversion that had been going steadily on, now received an impetus more favourable to quantity than to quality of the adherents. In a few years the churches were multiplied twentyfold, but, as owned by one of the too successful missionaries, the number of semi-heathen people rushing into these new folds like sheep "has done much to lower the tone of Christian life". Other teachers entered the field—Roman, Anglican, Norwegian, Quaker, following the London Missionary Society, whose most numerous converts were loosely called Methodists; and after the next quarter of a century, out of a population probably numbering two and a half millions at the most, nearly a fifth professed some form of Christianity. These were mostly among the mild Hovas, while shock-headed savages of the wilder parts still looked askance on all the white man's benefits but rum and obsolete firearms.

Hova civilization, then, was mainly stamped by religious influence. The people showed much zeal for observance of the Sabbath and for attending prayer-meetings. Schools were opened by the missionaries, who provided instruction in useful arts, printing among them. The Bible and other religious works were translated into the native language, in which more than one newspaper came to be printed, as well as in French and English. The better class took to European dress. Black coats and trousers became the fashion, replacing the white *lamba* skirt that was the main wear of both sexes. Dignitaries thought fit to bedizen

themselves in the most gorgeous style of our military costume. A force of artillery formed the core of an army imposing upon paper. The currency was French five-franc pieces, clipped into bits by way of making change—an awkward system that, as in China, led to continual wrangling. The government aped English forms, adopting from us such names as "Prime Minister", "Cabinet", "Foreign Office". But the spirit of free institutions was to seek among a people who, intelligent, courteous, and plausible as they are, have a sad want of moral backbone. Their sudden conversion gave them too good a name in missionary reports; but it soon proved that the seed had sprung up so quickly in no depth of earth. Critical observers describe them rather as false, cruel, and cowardly; Mr. E. F. Knight, correspondent of the *Times*, judged the most showy converts as "conceited and hypocritical prigs". It is significant that their superficial conversion did not have the effect of abolishing domestic slavery, though indeed in Madagascar this took a mild form. The "Prime Minister" or "Prince Consort" was practically a corrupt despot. Other high-sounding offices were sold, the business of the unpaid provincial governors being to enrich themselves at the expense of the unfortunate vassals handed over to them. Hova civilization soon proved a hollow sham; and the whole machine of government went to pieces at the first shock of collision with a European power.

As far back as the middle of the seventeenth century the French had made a lodgment at Fort Dauphin in the south; and though this was unsuccessful, they continued to keep an eye on acquisitions here. For two centuries little was heard in Europe of Madagascar unless as a resort of pirates, or from narratives of shipwrecked sailors like Robert Drury, who spent his youth in slavery on this island. A more famous adventurer was the Hungarian or Polish count, Benyowski, who, after escaping from Russian captivity in Kamtchatka, sought to carve out a Malagasy kingdom for himself, but was killed, 1786, fighting against the French. In the first half of the nineteenth century British influence for a time came to the front at the native court. The French, however, had never given up their vague claims to Madagascar; and in 1885, after some fighting, they wrung from its government a treaty by which France secured a privileged footing in the country. Fresh differences arose as to the interpretation of this agreement; then in 1895 General Duchesne led an expedition up to Antananarivo, a most difficult undertaking ably carried out, with heavy loss from disease rather than from patriotic arms. The last queen, Ranavalona III, harangued her troops in Maria Theresa style, and they loudly vowed to conquer or die, but usually ran away even before coming under fire. Treachery was at work as well as inefficiency; and the French met little resistance except from the difficult country. An English officer, Colonel Shervington, who had been employed to organize the Hova army, threw up his command in disgust. Outside the capital there was a little fighting, soon stopped by the unhappy queen's surrender to a force of 3000 men. Her husband, the Prime Minister, was at once deposed, but for a time the government went on in the name of the queen till the French saw well to get rid of her and formally to annex the island, which under their rule is likely to be better managed once they have thoroughly mastered the independent tribes for whom Hova dominion had been a feeble farce. These half-savages, indeed, have given them more trouble than did the Hova army with its imposing array of generals.

Whether the French will make much out of their new possession is another question, which seems not to count as a practical one on their side of the

Palanquin and Bearers, Antananarivo

Channel. Both in money and in life they have already had to spend freely on Madagascar; and it will at least be some time before they are able to make much profit out of its resources. As their official guide for emigrants admits, "Madagascar is neither an Eden nor an El Dorado"; and the climate of the lower regions makes these quite unfit for colonization, even if France had an outflow of suitable colonists. Trade, indeed, has slightly increased since the annexation. The chief exports are india-rubber, the bast of the raffia palm, hides and horns, wax, copal, gum, and timber. Gold-dust has been washed out of the streams, but it is doubtful if deposits are rich enough to repay elaborate working. Other minerals, including coal, have been found. The planters have hopes of making coffee and sugar as profitable as in Mauritius and Réunion; and the government promotes the spread of other cultures, such as wheat and mulberries. But, apart from the army and the officials, not more than a thousand Frenchmen have established themselves on the island, many of these engaged in commerce, which is still largely in the hands of other Europeans. On the west and north-west a number of Hindoos have settled, and of Chinese on the east side, both of whom take to the petty trade at which they are so apt.

A great want of the islands is roads through its swamps and forests, where hitherto travelling has been unsafe as well as difficult. The lagoons on the coast could be used as water-ways, but most of the many rivers that come down from the heights soon become unnavigable. Carriers are the chief motive power; and it is a point of dignity to be borne along in a palanquin on paths often so narrow and rugged that the "fare" must take to his own hands and feet. Before the French invasion horses were little known on the island; in General Duchesne's

march it was shown how useful the hardy mule could make himself here. The French have already done something towards opening out roads. They have built one bit of railway from Tamatave inland, which route is to be continued to the capital, in part by means of a canal and a series of navigable lagoons.

The Hovas, for all their pretence to civilization, are a simple, stay-at-home people, with little enterprise or public spirit. Their one large city was Antananarivo, which the missionaries spoke of as containing a population of nearly 100,000, but French reports bring down this estimate by at least half. Standing picturesquely on a height of the central plateau, nearly 5000 feet above the

The Plain of Andohalo, the principal trading quarter of Antananarivo

sea, it was rebuilt during the last half-century with a characteristic mixture of pretension and want of finish,[1] and will no doubt be improved by its present

[1] "Antananarivo is a city of well-built houses, a large number of which are of burnt brick, roofed with tiles, and of two or three stories in height. The residences of the wealthier natives are often really handsome, but it is the custom always to leave them incomplete in some respect; thus, one of the windows, for example, is of intention left unfurnished with frame or sashes, and is loosely bricked up; this is due to a superstitious belief that he who builds himself a house will die as soon as he has finished it. There is nothing in the least Oriental in the appearance of Antananarivo; it presents rather a European appearance, for the natives have acquired all their architectural style and building art from the missionaries, and twenty-five years ago the whole town was constructed of wood and bamboo. The tracks—one cannot apply the term 'street' to any of the thoroughfares—are certainly the steepest and roughest of any large city in the world that makes any pretensions to civilization. One road, it is true, is irregularly paved with cobbles; it leads from the queen's palace through Andohalo, the principal trading quarter of the city, and is bordered by the stores of the Europeans, Indians, and leading native merchants. The fine stone cathedrals and churches, the hospitals and school buildings, that would do credit to a fair-sized European town, the stately palaces of the queen and prime minister which dominate the city, seem in strange contrast to the utterly neglected paths by which only they can be approached, and of which some, carried along the edges of rocky declivities, are trying even to the nerves of those accustomed to cliff-climbing. More especially to the traveller from the coast, as it first bursts upon his view after he has crossed the wild country and the savagery that surrounds Imerina, Antananarivo has an imposing and royal appearance, standing as

masters. The only other town of note in the interior is Fianarantsoa, chief place of the Betsileo people to the south. On the east coast, about 250 miles below Antananarivo, is Tamatave, the most important port, described as a pretty and growing place, whose chief inhabitants are foreign merchants, with a working-class of Indians, Chinamen, and Creoles from Mauritius and Réunion. On the Mozambique Channel, Majunga is, or was, the best-known harbour, at the mouth of the longest river, which has a course of some 500 miles, and makes a way towards the capital. The other ports and roadsteads of the island are of little note, unless in the north, where the French are turning the bay of Diego Suarez into a strong naval harbour. On the north-west, the Nossi-bé islands have been occupied by the French for over half a century, and made the foothold from which they pushed their claims to the whole of Madagascar.

Under French protectorate also are the volcanic Comoro islands, lying in the Mozambique Channel like stepping-stones between Madagascar and Africa. The most easterly of these, Mayotte, is the centre of the French influence, which as yet seems not to have tamed the mongrel inhabitants out of their quarrelsome ways. Johanna and Great Comoro are the largest of the group, which produce cocoa-nuts, sugar-cane, bananas, cloves. About 100 miles to the north come some coral islands claimed by Britain, Aldabra the best known of them for its gigantic turtles.

Some 400 miles due north of Madagascar lie the Amirante islands; then the numerous group of the Seychelles, whose richly-verdured granite tops stand up from the submerged continent beneath the Indian Ocean. These islands were discovered and settled by Frenchmen, but in 1814 they passed into the far-reaching hands of Britain. The largest island is Mahé, known also by the name of its capital, Port Victoria, which on an area of 50 square miles contains a great part of the population, under 20,000 in all, who are mostly French-speaking Creoles. The climate is naturally damp, warm, and favourable to such tropical productions as we have seen in the adjacent islands; and the Seychelles are celebrated for specially large double cocoa-nuts, fruits of a palm of their own, the singular *coco de mer*, rooted as it were in a socket that allows its tall trunk to bend to every blast. As British dependencies they were till lately connected with Mauritius, the chief island of the Mascarene group, but are now administered as a separate colony.

THE MASCARENE GROUP

Mauritius, Rodriguez, and Réunion, named the Mascarene Islands from their Portuguese discoverer, lie some hundreds of miles east of Madagascar, in what used to be the ocean highway round the Cape to India. As spoils of the great war with Napoleon, Britain took Rodriguez, the smallest and most easterly, and Mauritius, formerly *Isle of France* or *Cerné*, the central of the group; while Réunion, once known as *Bourbon*, remained to France.

When first known to us, at the beginning of the sixteenth century, these

it does on its rugged height, with its handsome edifices, its garden-surrounded mansions that cover the steep slopes. But when inspected too closely, it must be confessed that this city gives one the impression of being a shoddy sort of a place, with buildings of pretentious exterior, making an obtrusive show of a civilization that is all on the outside."—E. F. Knight's *Madagascar in War Time*.

volcanic islands were uninhabited. The base of the imported population was French, shading off into all tints of Creole blood through the old slave population from various parts of Africa; and the top-dressing of civilization remains French. After the abolition of slavery, Indian coolies were found more useful as labourers in the plantations, and now form the majority in Mauritius; the enterprising Chinaman has also made his way here. With these Asiatics, though the Hindoos are cleaner in their habits than the negroes, seem to have come the seeds of fever and cholera, breeding too readily in a damp warm air, every now and then swept clear by a storm. Since the pestilential outbreak of fever in 1867 the island has lost its old repute for salubrity, even our too familiar influenza here taking a fatal form. The sweltering rainy season lasts through our winter; and the climate of perpetual summer is depressing on the low ground, while more tolerable on the heights, which, however, catch the largest share of a sometimes torrential rainfall. The worst chance of weather is the hurricanes that sweep these seas, their most violent visitations coming only once in ten years or so, foretold days before by warnings of sea and sky, and remembered for years after by the ruin they have wrought; they are frequent in less stupendous forms, still so much dreaded that, when the approach of one is signalled from the observatory, even railway trains put into port for safe moorings, and all travel over the island comes to a stand-still.

Mauritius is well off for descriptions. It appears in more than one story of the late Sir W. Besant, who began his career by a scholastic appointment in this colony. But its chief literary fame comes from being depicted as a sort of earthly paradise in the Abbé de St. Pierre's *Paul and Virginia*, a book that is in every gentleman's library, but hardly on our railway book-stalls. Since his day the scenery has been tamed into a more monotonous aspect by the spread of sugar-cane plantations, the staple product, now to some extent replaced by vanilla, rice, aloe fibre, &c.[1] Still, however, the island nurses a wildly luxuriant vegetation, tropical blooms and fruits flourishing as in a hothouse, many of them exotics which have taken kindly to this soil—the baobab and the date of Africa, the banyan of India, the bougainvillia and the *Victoria regia* lily of South America, with others among countless shows of native flora on the whole resembling Madagascar's. Several imported animals also have made themselves much at home here. Goats, pigs, and cats run wild in the woods among the monkeys

[1] "A visit to a sugar-mill at work is one of the sights of Mauritius. Projecting beyond one gable of an oblong building, a revolving platform on an endless chain receives a continuous supply of canes from carts or from the carriers of a wire tramway. This platform leads the canes into the first set of rollers, whence a second revolving platform conveys them automatically to a second pair of rollers, from which a third platform carries the megass or crushed fragments into a cart, to be dried and used as fuel for the boilers. The juice then goes through a variety of processes to get rid of the fragments of fibre and other impurities which still float in it. This is done by means of sulphurous acid and lime, by straining, boiling, and eventually filtering. The purified juice is then concentrated, first through what is called the 'triple effect' an economical method of using the same drying steam three times over and finally in the vacuum-pan. This is a large round copper boiler, from which the air is exhausted over the syrupy juice, so as to enable the final evaporation to be completed at a low temperature. By an ingenious contrivance samples of the granulating syrup can be taken out to watch the proper moment when the whole contents can be shot into large cooling vats below the pan. When cold, you see in the vats a dark, almost black, mass, so thick with sugar crystals that it can hardly flow in fact it is the sugar surrounded by black treacle. To get rid of the latter, small portions of the dark mass are put into the centrifugal machines. These are perforated baskets about 30 inches across and 24 inches deep, which whirl round at a very high speed. You see the dark viscous mass fly up the sides of the basket, and gradually get whiter and whiter as the treacle strains through the perforations and leaves the white sugar crystals adhering to the sides of the vessel. After four minutes a little water is first sprinkled on the sugar to wash it, and then a little steam is turned on to dry it. The machine is then stopped, the sugar lifted in a coherent mass out of the basket, then crushed in a rough kind of coffee-mill, passed through a sieve to separate a few lumps which would interfere with the sale, and then packed into bags of vacoa-palm leaves and sent down to Port Louis."—Hon. Ralph Abercromby's *Seas and Skies.*

and lemurs that are their indigenous inhabitants. A past peculiarity of the fauna was huge wingless birds, one of which, the dodo, has become extinct only since the discovery of these islands. Among beautiful birds, still in the flesh, the *minah*, here called the marten, earns a good reputation by its services in pecking

The Pieter Both Mountain, Mauritius

up locusts. Snakes are happily rare, but the same cannot be said of cockroaches, spiders, scorpions, centipedes, ants, flies, mosquitoes, and other tropical plagues; and rats swarm in nibbling myriads, showing a sweet tooth for sugar-canes, which also suffer severely from insect parasites. The coral reefs of the shore are alive with an extraordinary variety of fish, from sharks to sardines, many of them so brilliantly coloured as they dart through the sunlit waters as

to be compared to a submarine garden of moving flowers; but they soon lose these tints on being taken out of their element; then it proves that fine scales do not always make good eating. Perhaps the most dangerous creature here is the *laff*, a hideous, mud-coated fish, whose spine, if accidentally trodden on, inflicts a most agonizing wound that may even be deadly.

Upon some 700 square miles, about the area of Surrey, Mauritius has nearly 400,000 inhabitants, not a hundredth part of them pure-blooded white men, on whose pride of race the better class of Creoles encroach; a promising element is supplied by the industry of Indian coolies, here known as Malabars, who now make two-thirds of the population. This is a Crown colony, to which has been granted some measure of representative institutions; and our fellow-subjects retain their own laws based on the Code Napoléon, English, however, being the language of the courts. An English garrison is kept on the island, which is an Anglican bishopric. The capital, Port Louis (52,500), on a bay of the north-west, has a good harbour, and railway communication with the interior and other sides of the island; but it is at the disadvantage of being specially unhealthy. The second town, Curepipe (11,300), is more bracingly situated on the uplands, so as to make a summer retreat for well-to-do citizens of St. Louis. At Pamplemousses, a retreat half an hour by rail from Port Louis, is a very notable botanical garden, the *bouquet* of an island where "Flora and Pomona may sit down together and twine into their garlands the flowers and fruits of the four quarters of the world". Here is shown the tomb of the two lovers whose story suggested *Paul and Virginia*. The glowing scenes of this romance are hardly exaggerated so far as nature goes, while the author, according to the fashion of his day, touched up the common features of life to be in keeping with his idyllic picture. In the same corner of the island is the Pieter Both Mountain, owing renown less to its height than to its boldly-shaped and apparently inaccessible summit, which offers a feat for adventurous climbers; from one point of view it suggests a statue of the late Queen Victoria in robes and diadem. There are other impressive mountain groups, fine cascades, lakes like the *Grand Bassin* filling an extinct crater, and curiosities of nature such as the *Bois Sec*, where thousands of trunks have been bleached to ghostly skeletons by some pestilential influence.[1]

The French island Réunion is rather larger than Mauritius, but hardly half as well populated with about 175,000 inhabitants. Its strong point is grand volcanic scenery, which has given it the name of a tropical Switzerland; and this island also figures glowingly in a once famous novel, the *Indiana* of George Sand, whose hero is a volcano-like Englishman, all fire within an icy mask of British reserve as it appears to French imagination. One peak, the *Piton de Neiges*, in the north of the island, reaches the height of nearly 10,000 feet among a group

[1] "What there is of Mauritius is beautiful. You have undulating wide expanses of sugar-cane—a fine fresh green and very pleasant to the eye; and everywhere else you have a ragged luxuriance of tropic vegetation of vivid greens of varying shades, a wild tangle of underbrush, with graceful tall palms lifting their crippled plumes high above it; and you have stretches of shady dense forest, with limpid streams frolicking through them, continually glimpsed and lost and glimpsed again in the pleasantest hide-and-seek fashion; and you have some tiny mountains, some quaint and picturesque groups of toy-peaks, and a dainty little vest-pocket Matterhorn; and here and there and now and then a strip of sea with a white ruffle of surf breaks into the view. That is Mauritius; and pretty enough. The details are few, the massed result is charming but not imposing; not riotous, not exciting; it is a Sunday landscape. Perspective, and the enchantments wrought by distance, are wanting. There are no distances; there is no perspective, so to speak. Fifteen miles as the crow flies is the usual limit of vision. Mauritius is a garden and a park combined. It affects one's emotions as parks and gardens affect them. The surfaces of one's spiritual deeps are pleasantly played upon, the deeps themselves are not reached, not stirred."—Mark Twain's *More Tramps Abroad*.

of extinct crater hollows which discharge Alpine torrents to different quarters. In the south, almost as high, is the *Piton de la Fournais* with its *Grand Brulé* crater, that still from time to time throws up a cloud of fiery dust and pours a slow flood of lava hissing into the sea. These culminating heights are united by a lofty plateau, on the north-east or windward side of which the climate and productions are Asiatic, while the more sheltered leeward side rather recalls Africa. Successive zones of tropical and temperate growths mount from the rugged coast to this rocky skeleton, sometimes crested with snow. The volcanic outbursts that have clothed the island in so much beauty are usually harmless, though in 1875 an extensive landslip buried nearly a hundred people. More perilous are the stormy sea and devastating hurricanes, round a shore which wants good harbours.

The climate is called remarkably healthy for the tropics; and if it be too warm on the low coast belt, the people can seek cool retreats in their mountains, where hot mineral springs contribute to restore the victims of fever that, here as in Mauritius, is believed to have come with Indian coolies. Their immigration is now stopped; and the planters have to cast about for other naked labour among their sugar-canes. Sugar and rum are the chief products, but the cheapening of sugar sets the growers upon trying coffee, cocoa, spices, &c. The French people, few of them pure French, have the satisfaction of living under the flag of their own country, to whose legislature they send a representative, and have a liberal system of local government. And France has the satisfaction of knowing this colony not very costly; it is said to be the only French dependency that almost pays its expenses. The capital is St. Denis at the north end, a town of 30,000 inhabitants, connected by rail with other ports, St. Paul at the same end and St. Pierre at the south. The other towns are hardly more than villages, nearly all upon the coast.

There is no small rivalry between this French island and its British neighbour, eighty miles apart; and it is well that they seem both tolerably content with being, one more picturesque, the other more prosperous to console it for the sight of British uniforms and Indian rupees. One of the most notable events in the history of Réunion was the detention here for years, during the Napoleonic wars, of Lieutenant Flinders returning from the Australian explorations, his record of which Britain's enemies might well try to suppress. France had been more chivalrous to Captain Cook, orders being given to treat his ships as neutral when war broke out with England during his last expedition in the South Seas.

Rodriguez, more than 300 miles east of Mauritius, is of no great importance, having under 3000 inhabitants, mostly the mongrel descendants of Asian and African slaves, who live chiefly by fishing. To the north of it, also dependent on Mauritius, are the Carcados and Galegas islets, whose chief production is cocoa-nut oil. This is also the case with another thinly-peopled British archipelago, the Chagos, which lie farther east about the ocean track from Suez to Australia, on which Diego Garcia makes a coaling-station.[1]

[1] The geographical and commercial statistics belonging to this chapter will be found in Vol. III.

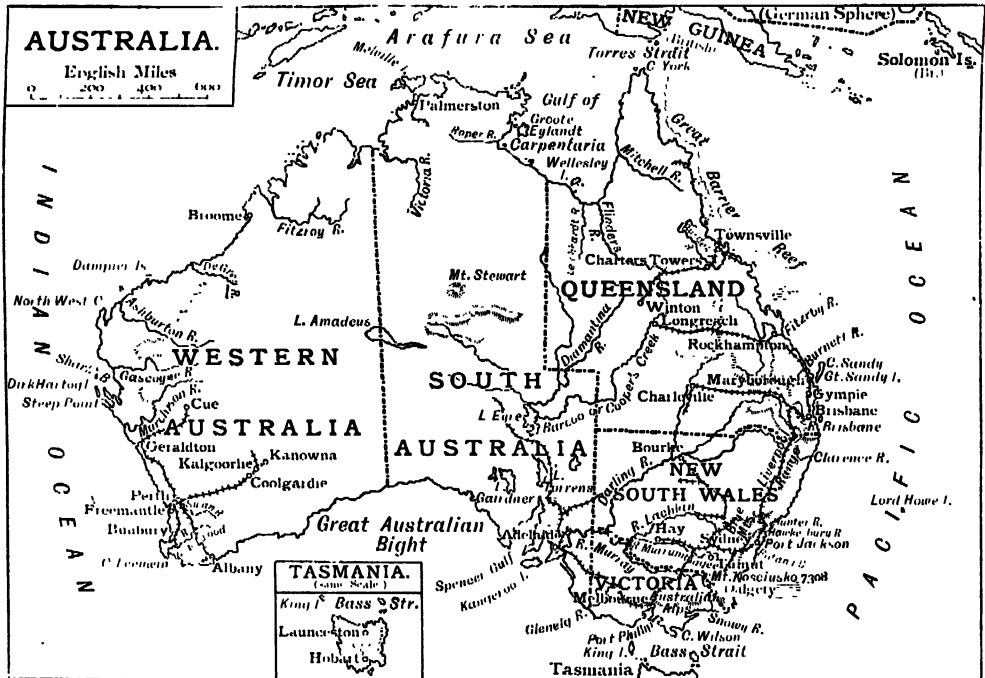
AUSTRALIA
& NEW ZEALAND.
BY J. BARTHOLOMEW F.R.G.S.
British Miles
Kilometres
Cables and Telegraphs
Railways
Note
British Possessions coloured
French
Portuguese
Dutch
German
Independent Islands
FLORES SEA
ARAFURA SEA
TIMOR SEA
Torres Strait
PAPUA OR NEW GUINEA
SOLOMON
Gulf of Carpentaria
CORAL SEA
NEW HEBRIDES
NEW CALEDONIA
Loyalty Is.
Northern Territory of South Australia
QUEENSLAND
WESTERN AUSTRALIA
Great Sandy Desert
Great Victoria Desert
SOUTH AUSTRALIA
NEW SOUTH
Nullarbor Plain
Great Australian Bight
Bass Strait
TASMANIA
North Island
NEW ZEALAND
South Island
Norfolk I.
Tropic of Capricorn
SOUTHERN OCEAN
Chatham Is.
Longitude East 140 from Greenwich

AUSTRALIA

The largest island in the world seems a belittling description for the main mass of its fifth division. It is an island as surrounded by water; but so, when one comes to think of it, is half the earth's surface marked off into three continents; and so, on the other side of the globe, are the two Americas. Continent, rather, should be the rank of a great region over which during the last century, carelessly and sometimes almost unwillingly, Britain has been drawn into founding a dominion as large as half a dozen kingdoms. Colonial writers may well insist on bringing home to us the dimensions of this new world by translating them into familiar terms, as Dr. Fitchett does thus:—"West Australia alone, for example, is almost equal to China proper; eight Portugals, or well-nigh three Italys, might be packed into New South Wales. Even Victoria is seven times the size of the Netherlands; while Queensland is equal in area to all the thirteen united provinces that originally formed the United States, and successfully defied the England of George III. Two of the colonies taken together—South Australia and West Australia—are equal to Russia in Europe. Australian geography, in a word, has something of Titanic scale."

The existence of Australia is believed to have been known, or at least surmised, by early French and Portuguese navigators, not to speak of Chinese. Three centuries ago it began to be authentically visited; and geographers could speak of *Terra Australis* in the far south, which long remained on the best maps a mere vague outline, like the Arctic and Antarctic regions as guessed at to-day. In the seventeenth century it was sought out by enterprising Dutchmen, who coasted a great part of what they named New Holland. At the end of that century Dampier was the first British explorer. In 1770 Cook surveyed the east coast, christened it with English names, and claimed for Georgius Rex an ownership on which France cast her eye too late. As yet no one suspected what an addition was made to the empire, which only a century later would become conscious of being an empire. The first use we made of this new possession was as a dumping ground for the dregs of our society. Till the middle of the nineteenth century, New South Wales and Van Diemen's Land, as other parts even later, continued to be used as penal settlements; and the name of Australia lent itself to such pleasantries as once, in our coarse British vein of humour, were thought appropriate to the gallows and the gaol.

The taint of crime, indeed, bleached quickly under southern suns. As our criminal laws were then administered, it was often an adventurous spirit that put men at war with society; some gentler natures, like the Scottish advocate Muir, were transported for being in advance of their generation, and

the next one built their monuments in reforms that once seemed a step to anarchy. Too many of the transported were hopelessly brutalized by the terrible discipline of Port Jackson and Port Arthur; but others, with the help of industry and honest earning, recovered their moral health in this fresh air. The antecedents of the ex-convicts became deodorized among cleaner elements of colonization; not a few of them rose to wealth, and some to honour. By the middle of the century, when more than 100,000 convicts had been absorbed by Australia and Tasmania, there grew up a community whose origin was a sore subject, and who refused to be recruited any longer by those banished from *their native land for its own good. Henceforth none but honest emigrants* could be sent out, for whom there seemed abundant room to found prosperous

homes in this new country. What gave a great impulse to quantity if not to quality of population was the discovery of gold in 1851. At that time the white men scattered over these struggling colonies numbered some 350,000. In half a century they have multiplied tenfold, and till lately went on increasing at such a rate as seemed likely to outnumber the inhabitants of the mother-country long before that New Zealand tourist come to sketch the ruins of St. Paul's and trace out the site of the British Colonial Office. The latest estimate brings the Australian population over four millions.

Australia, 2400 miles at its longest by 1900 miles at its broadest, has almost the area of Europe, nearly 3,000,000 square miles, in a more compact form. It is believed to have once been joined to New Guinea, on the north, perhaps to the Fiji group eastwards. An original extension of the mainland is certainly marked by outlying islands, and on the north-east by the Great Barrier Reef, a belt of coral banks more than a thousand miles long, for the greater part some fifty or sixty miles off the coast; over this the sea has broken in, but it is so slightly submerged as to be a bar to navigation, its rare openings

requiring skilful pilotage. On the east side the present shore-line is bold and rocky. On other sides it is usually low and sandy, but sometimes presents high cliffs and bluffs; and at many points it has a fringe of small islands. For the most part its indentations make no great show on maps. The deepest is the great Gulf of Carpentaria on the north, beside which Cape York Peninsula, the most prominent feature of the whole coast, stretches its long tongue towards New Guinea, separated from it by the Torres Strait, 80 miles broad. The south coast is hollowed by the opener Great Australian Bight with its wall of steep cliffs, to the east of which the narrow Spencer and St. Vincent gulfs are parted by another York Peninsula, a name dating from days when "God bless the Regent and the Duke of York!" was a watchword of respectable loyalty. The south-east corner is also broken, where Bass Strait cuts off the island of Tasmania. The west side has several hollows offering good harbours, the largest being the Cambridge Gulf of the north-west corner; then farther up, two large islands with the hooked Coburg Peninsula shelter the deep Port Darwin inlet and the spacious Van Diemen's Gulf.

This island-continent, whose outlines are so African in their want of indentation, resembles Africa also in having its high ground for the most part near the sea, forming the rim of dry interior plains. The principal mountains are those which, under different names and in broken groups, stand a little back from the east coast, then curve round at the south end, sometimes called the Great Dividing Range, though in fact they divide only a shore strip of 30 to 60 miles broad from the rest of Australia. Commonly no higher than British mountains, often mere hills, at the south end they seem to deserve the name of Australian Alps, where Mt. Kosciusko attains the greatest elevation, a little over 7000 feet. Here and elsewhere peaks and gorges diversify the oftener tamely rounded outlines presented even by some of the highest points. On the west side, the heights take rather the form of table-lands, falling into a hollow interior, that appears to rise in some central elevations, but, so far as is known, there are no important inland ranges; and for an island the surface is in general unusually flat. It has been conjectured that at one time it made two separate islands, the channel between them represented by the line of salt lakes and deserts stretching across from the deep inlets of Adelaide to the Gulf of Carpentaria.

This conformation implies a deficiency in large rivers, while the climate accounts for the streams being of the irregularly swollen type so frequent in dry countries. The chief basin is that of the Murray, which with its principal tributary, the Darling, and others, drains the country west of the mountains to the south coast. The east coast has several considerable streams, the Hawkesbury, the Clarence, the Fitzroy, &c., finding crooked courses of some few hundred miles from its mountain background. The Flinders river (400 miles) is longest of those flowing to the Gulf of Carpentaria. The Victoria river, almost as long, opens into the Cambridge Gulf. On the west coast are numerous streams, not always full, the longest of them running from 300 to 500 miles. On the south side, for 1000 miles, no perennial stream drains into the Australian Bight. Most of the Australian rivers, liable in turn to shrinking and sudden swelling, are of little use as means of communication far inland. Many of them, in hot seasons, run dry before reaching the sea, dribbling away their waters in loops and backwaters known here as *creeks*.

Others, struggling into the interior, are sucked up by brackish swamps, such as form a special feature of the south central region, where Lakes Eyre, Torrens, Gairdner, and others sometimes spread out for a hundred miles over their far-reaching shores of salt-encrusted mud. The island of Tasmania is exceptional in its regular rainfall, mountain lakes, and perennial streams.

On the whole, Australia is a badly-watered country, especially in the interior, where vast stretches of dry soil, if not a stony desert, are covered by "scrub", a dense growth of stunted trees and thirsty bushes through which a way must be hewn, or by a thick thorny grass that cuts the feet of men and horses like knives. The want of fresh water, too, makes the exploration of

Photo. Kerry, Sydney

An Australian River Scene (Snowy River, New South Wales)

such wildernesses a forbidding task; yet in the last half century they have been penetrated and crossed in various directions, by a succession of dauntless pioneers, some of whom never came back to tell the tale of their sufferings. Thanks to them, the interior parts of the continent, large stretches of it still vaguely mapped, are no longer a mysterious region, in which at one time men hoped to find vast forests, cloudy mountains, or some great inland sea.[1]

[1] The Hon. W. P. Reeves aptly compares Australia to a gigantic atoll with desert instead of sea within its ring of higher ground. The western part of the desert region, as we shall see in visiting Western Australia, is the most utterly barren. "The Central Desert rises imperceptibly from its southern limit at Lake Eyre, which lies below the ocean level—the Dead Sea of Australia. On the Tropic of Capricorn, across the middle of the immense waste, the steep rocks of the Macdonnell ranges stand up as high as 5000 feet, divided by sandy valleys like the gorges of Nubia. In their loose drifts burrows the marsupial mole, a creature found nowhere else, and in the deepest clefts among the red rocks water lies all the year round in dark pools screened by cliffs from the sun's rays. To the north of the mountains stretch hard steppes, in parts of which man can just live. The sun scorches them by day, and the frost—despite the latitude—nips by night, so rapid is the radiation under the cloudless skies. Where there is vegetation it is porcupine grass, the leaves of

Where travel is found so difficult men cannot live. Australia was settled from the sea-coast, on which, or on the grassy downs and plains not far inland, are the chief aggregations of population, that as yet on an average gives only one person for each square mile. The mass of the inhabitants are of British stock, who cherish a sensitive new patriotism, but at the bottom of their hearts have still a proud memory of the mother-land they call Home. Here and there fresh blood has been introduced by adventurers from other European countries—industrious Germans, lively Frenchmen, Scandinavians, Swiss, and so on,—who for a generation or two may cling together in their new settlements, but easily blend with the prevalent stock. In a different position are importations of hard-working Chinese and Japanese, coolies from India, Malays, South Sea Islanders, and other "natives", who, after being suffered for a time, find themselves now barred out from competition with white labour. The Chinaman has been especially insinuating here, even after he could enter the country only by paying a heavy duty on his inconvenient intrusion of alien habits and abilities, also of alien vices, among which the most detested is the fact of his living cheaper and working harder than the superior race.

The states seem now inclined to modify their policy that for a time did not encourage immigration; they had reason to give up paying the passage of British emigrants who, helped out by the funds, for instance, of Queensland, might presently desert her wing to seek fortune in New South Wales. At the beginning of the century, some two-thirds of the population were born Australians, "Cornstalks" as they nickname themselves, ripening faster than their fathers, shooting up tall and lithe under the force of their warm suns, well nourished, full of spirit, and hitherto multiplying so fast as no longer to need reinforcement from without; but—an ominous sign for the future—these "meat-fed men" and "strong, deep-bosomed women" seem no longer to be breeding "children nine and ten", if statisticians rather than poets are to be taken as authority. Under special conditions there is being developed here a new type of the Anglo-Saxon race, which seems likely to go on diverging more widely, for good or ill, from the parent stock. It is too soon to calculate all that may come of Australia's raw democracy, of her vehement politics, of her secular education, and of her deficiency in those reverential sentiments that still colour life in the old country. Her leaders have been concerned to encourage mental as well as physical growth. Her chief cities are well provided with universities, museums, learned societies, public libraries, the beginnings of art collections, and other means of intellectual grace; and she is already producing literature that is a voice as well as an echo, while music is, perhaps, the art most popular at the Antipodes. The interest of the masses, however, appears too much turned on coarser stimulants. Horse-racing, cricket, and football-playing fill an enormous place in the public eye; and politics yield much the same sort of excitement. The lurid picturesqueness of bushranging has been ruled out by railways and telegraphs, but there is a disquieting amount of vulgar crime, and the reckless

which have been likened to 'knitting needles, radiating from a huge pin-cushion', thorny shrubs, monotonous scrubs, and by each scattered waterhole a straggling company of exhausted-looking eucalypts. Away from the little oases such grass as there is grows in wiry tufts, far apart on the staring clay; a persevering man could count the number of tussocks in an acre. Wide expanses, the 'gibber' plains, are entirely bare; brown and purple stones extend farther than the eye can reach. The heat in summer is that of the Sahara. When it is at its worst the lead drops out of the explorer's cedar pencils, the ink dries on his pen ere he can write, his candles have to be buried in the earth to save them from melting, and his hair and finger-nails cease to grow."—*State Experiments in Australia and New Zealand.*

"larrikin" of over-populated cities makes no hopeful element of society. The gold-mining fever has helped to put speculation and unrest into the new blood; it looks as if gambling would become the national vice of Australia. Drunkenness is that which has hitherto scandalized sober observers; but we are assured that young Australia is weaning itself from the curse to which the outcasts of English society took so kindly. At the same time the new race seems to be losing its inheritance of dull good-nature, slow sturdiness, sober prudence, and other English virtues alloyed with defects. A keen, eager, restless spirit is breathed by the clearer air of the Antipodes. But if we may trust the Australian poets as speaking from the heart of the young people, that spirit is easily turned to melancholy and despair—

> "In lands where bright blossoms are scentless,
> And songless bright birds,
> Where with fire and fierce drought on her tresses,
> Insatiable summer oppresses
> Sere woodlands and sad wildernesses,
> And faint flocks and herds."[1]

Before entering further on the achievements of a century, let us look at Australia as we found it endowed by nature.

NATURAL HISTORY

The position and conformation of Australia account for a climate which is, in general, hot and dry, with less variety than might be expected over a breadth of latitude that in Europe would carry us from a country covered with snow to one where oranges are growing in the open air. It is much more warm and sunny than Britain, its winter being often as genial as our June, while in summer the thermometer may rise thirty degrees or more above what sets us panting and perspiring at home. On the coast the air is cooled by sea breezes. In the central deserts the power of the sun is unchecked, so that it could burst the bulb of the explorer Sturt's thermometer, marked to 127° F., when "the blasts of heat were so terrific that I wondered the very grass did not take fire", and "the leaves of the trees under which we were sitting fell like a snow shower around us". The winds blowing from these hot inland plains sometimes scorch up the grain and fruit of more favoured spots. But apart from hot winds, the sun is less trying

[1] "The Australian mountain forests", says Marcus Clarke, "are funereal, secret, stern. Their solitude is desolation. They seem to stifle in their black gorges a story of sullen despair. No tender sentiment is nourished in their shade. In other lands the dying year is mourned, the falling leaves drop lightly on his bier. In the Australian forests no leaves fall. The savage winds shout among the rock clefts. From the melancholy gums strips of white bark hang and rustle. The very animal life of these frowning hills is either grotesque or ghostly. Great gray kangaroos hop noiselessly over the coarse grass. Flights of white cockatoos stream out, shrieking like evil souls. The sun suddenly sinks, and the mopokes burst out into horrible peals of semi-human laughter. The natives aver that, when night comes, from out of the bottomless depths of some lagoon the bunyip rises, and, in form like monstrous sea-calf, drags his loathsome length from out the ooze. From a corner of the silent forest rises a dismal chant, and around a fire dance natives painted like skeletons. All is fear-inspiring and gloomy. No bright fancies are linked with the memories of the mountains. Hopeless explorers have named them out of their sufferings—Mount Misery, Mount Dreadful, Mount Despair. As well among sylvan scenes in places

> 'Made green with the running of rivers,
> And gracious with temperate air',

the soul is soothed and satisfied, so, placed before the frightful grandeur of these barren hills, it drinks in their sentiment of defiant ferocity and is steeped in bitterness."

than in countries nearer the Equator, where its rays strike more vertically down. To the dangerous glare of India no white man exposes his head without protection. In Australia, though it may be quite as hot, people go about without much fear of anything worse than sunburn; and we know how they play cricket all the year round. Prostration from heat seems more common in towns than in the open country. The climate, for all its heat, is a healthy one, in which white men can not only play and work, but have brought up sturdy families. Danger-

An Australian Woodland. (From a photograph.)

ous epidemic diseases are rare, thanks not only to the wholesome dry climate, but to the vigilance of the authorities in keeping out infection. In spite of the use of bad spirits, strong tea and tobacco, of a diet of too much meat and sometimes salt meat, and of little medical care in the less settled districts, the death-rate is low, under 18 in 1000.

The north, of course, is hotter as being within the tropics, while the south end reaches into a temperate zone. We must bear in mind how all the phenomena of the seasons come here "the other way on". We shiver in fog and snow when the sons of Australia are stripped for hot harvest work; our autumn is their time of bloom and blossom; they decorate their Christmas tables with roses instead of holly. Colonial-born children may well be puzzled by our poets,

who seem so strangely to confuse January and July. It is their north, then, that has the more sweltering heat, its weather divided between the tropical wet and dry seasons, the rains coming all together in summer. In the south rain falls chiefly in winter, and all our seasons are distinguishable, though not so markedly as with us, the large proportion of evergreen trees in Australia helping to make a less striking change than that between our leafless winter woods and the "high midsummer pomps". The climate there is in general more equable, with waves of great heat taking the place of our cold snaps, and commonly an atmospheric dryness that seems to roughen the hair of white men as well as of black. Ice and snow, except on the mountains, are uncommon, though not unknown. Showers of sleet and hail and sheets of frosted mud may be familiar, but many Australians see a real winter landscape for the first time when they come home to England. They are more used to storms of hot dust, whirled along in blinding scorching clouds that make the Antipodes of our chilly fogs, and laid so thick that footsteps will be marked upon it as on snow. From one curse of a hot climate Australia is almost free, the festering swamps that make so many tropical coast-lands uninhabitable by our race.

The greatest allowance of rain comes to the coast, soon spent on its mountain background, beyond which, for want of points to catch what clouds pass over the interior, they will roll on as if mocking the thirsty soil below. The south-east corner, about the highest peaks, is the most regularly watered. The mere amount of rainfall, which in some tropical parts may be twice as high as in Devonshire, and in the dry interior half as much as our east coast average, has less importance than its distribution; and the great drawback of the Australian climate is that its water supply cannot be depended upon. The record at Sydney has varied in different years from 22 to 82 inches of rainfall. When rain does come it lasts sometimes for months, or bursts in a deluge, suddenly flooding land that long has been and will again be a desert. Then again, the rains may fail or fall short for years together; and thus from time to time large regions of Australia are half ruined by a prolonged drought, parching up the herbage over thousands of square miles, and killing off cattle and sheep by millions. Such alternations of wet and dry spells are believed to come in periodic cycles; and it is supposed that the clearing of the forests may have injuriously affected the climate, a matter as to which the memory of an "oldest inhabitant" must not always be trusted.

The plant life that flourishes in this climate is rich, after a peculiar style conditioned by the ancient isolation of the continent, giving its flora such distant relationship to that developed in other parts of the world. To the botanist it is more interesting than charming to the idle eye. The foliage, as a whole, strikes a stranger as thin, dull, and monotonous. In spring, indeed, whole acres of wild-flower beds and groves of blossom will glow with colour; but in autumn the evergreen woods, unlit by the glory of decay, seem simply tired of their struggle for existence. The Australian grass may grow rank as a field of barley, but it is not that precious turf which the colonists bring from England and labour to keep fresh under forcing suns; and though our hot-house orchids run wild in Australian woods, about their homes they love to cultivate the humbler pinks and sweet-williams, lilac and laburnum, and other hardy blossoms that remind them of the "old country", yielding to none in fresh and tender tints, however it may be surpassed by others in gorgeous flowers and gigantic fruits.

A marked feature of Australian scenery is the prevalence of the eucalyptus or gum-tree, which, growing rapidly and furnishing a wholesome antidote to marshy emanations, has been introduced with such success into Africa and other parts of the world, and may be seen as a rarity in the mildest spots of England. There are countless varieties of eucalyptus: besides the common white-gum, the red-gum, and the blue-gum, the last that which has chiefly been transplanted, the species includes the iron-bark, the stringy-bark, the karri, the jarrah, and other trees noted for their valuable timber. Gum-trees are found growing sullenly apart in open forests; leagues upon leagues of straight bare lanky stems, often rising two hundred feet before they throw out their scraggy crown of dull-tinted, dry, and drooping leaves, that cast an imperfect shade. They are sometimes twice as high, with a girth of over twenty feet; one fallen trunk has been measured that must have stood nearly five hundred feet, able to look down on the giant Californian sequoia itself. These open forests are called the "bush" even when nothing is left of them but blackened stumps, or "ringed" trunks standing white and naked like ghosts of once living trees, a frequent sight that makes one of the most dismal aspects of Australian scenery. The thinly-wooded bush is feeding ground for flocks and herds, so also are the open lands known as "downs". On the sides and in the hollows of the mountains, rather, or in the tropical north, occur the rank jungles, sometimes bearing the name of "brushes", where the trunks are bound together in a mass of creepers and flowers, climbing out of dense undergrowth, above which also shoot up tree-ferns, twenty or thirty feet high.

Photo. Felling an Australian Forest Giant Kerry, Sydney

The eucalyptus woodlands come to be wearisome in their sameness, but they make easy travelling, and are pleasant compared to the "scrubs" already mentioned as such an obstacle to exploration. Scrub, a closely tangled growth of heaths, bushes, or small trees, is as characteristic of the dry interior plains as are the steppes of Central Asia or the forest jungles of Equatorial Africa. Sometimes for thousands of square miles the sandy ground is packed with osier-like stems of a dwarf eucalyptus, through which a deep cutting must be hewn in the impenetrable thicket. Still more formidable are the scrubs chiefly composed of thorny acacias. Worst of all, and perhaps most extensive, are those vast tracts covered with hypocritically verdant tussocks of the sharp hard grass known as spinifex, which wounds the legs of men and horses, and is too much for even the callous mouths of the camels that have been introduced into parts of this country.

Australia boasts many huge or curious trees: a magnificent cedar with a wood like mahogany; the umbrageous blackwood, a native hickory; the funereal casuarina, or she-oak, whose dark leafless branches droop over the streams; lofty pine-like stems and thick swollen ones like the baobab; the palms and bamboos of the tropics; the odd "grass-tree" having at the top a tuft of sharp and pointed leaves out of which grows several feet of stalk covered with small flowers; the odder crooked "honeysuckles", gay with yellow flowers in the shape of "bottle-brushes"; the clumsy trunk that has got the name of "bottle-tree"; the graceful miall-tree with its streaming foliage and scent of violets. This last is one of the innumerable acacias, here called "wattles", which in Australia show more abundance and variety of form than in any other region, lighting up even the gloom of the scrub with their gay blossom.

Perhaps nowhere else are trees so rich in fragrant and flower-like adornment, while the flowers are sometimes so overgrown as to rival trees, and even the English wild-rose takes on a richer form. There are the "fire-tree" and the "flame-tree", so thickly set with orange and red blooms that a hillside covered with them looks, miles away, as if in a blaze of colour. There is the rock lily, a gigantic stalk bursting at the top into flowers several feet in circumference. There are magnificent water lilies, and other "weeds of glòrious feature". There are pink and white "everlasting" eyes, like big daisies, spangling acres of sward. There are creepers with masses of bloom. There is the waratah, or native tulip, with its crimson crown borne up by a stem man-high, which makes a claim to become the national flower. It would seem as if this wealth of flowering was at the expense of foliage. Australian leaves have the way of thickening themselves into leathery leaf-stalks that hang rather than spread out, so that luxuriance of shade is exceptional. And while the flowers want perfume, the leaves are often aromatic, giving the gloomiest thicket a pleasant and perhaps a healthful property, at one season loading the air with odours that are wafted many a league out to sea. For another antipodean contrast, the trees are seldom deciduous unless by gradual decay; it is their peeling bark that litters the ground more thickly than fallen leaves.

Australian trees, again, run to flowers rather than to fruit. Nature has been stingy here both of edible fruits and vegetables, the indigenous plants being more fit to feed a population of flying and skipping things than to furnish food for man. The native berries please the eye better than the palate. Roots and fungi are the chief vegetable fare of the aborigines, unless where in season they can gather

tasteless plums, figs, or the cherries which have the peculiarity of growing their stone, properly a nut, outside the fruit. In one district the bunya-bunya tree, with its glossy prickly leaves, bears every three years an abundant crop of nuts that bring the hungry blackfellows flocking from far and near to a rare feast. Such poverty appears to be no fault of the climate or of the soil. The branches of imported fruit-trees are often broken down under the weight of apples and pears; and oranges bear all the year round. So hospitable is the reception given to strangers on Antipodean soil, where our crops, roots, and flowers thrive kindly, even to gorse, broom, and the thistles that have become a widespread nuisance, since they were introduced to tickle the memory of some patriotic Scot, as if Australia had not a plague of indigenous weeds, poisonous as well as prickly. From thistles to the Californian Wellingtonia, an extraordinary show of exotic growths is collected in the public gardens of Australian cities and the lordly private grounds that environ them, so as to stock what have been aptly called botanical Noah's Arks.

Photo. Walter Burke, F R P S

Kangaroo, with young one in pouch

This independent continent has also a fauna of its own, the striking feature of which is a want of fierce carnivora, and the prevalence of marsupial or pouch-bearing animals, a form long out of fashion with nature in other parts of the world.[1] The king of Australian beasts is the "old man" kangaroo, making awkward but agile springs of twenty feet, even if loaded by a "Joey" in its pouch, and standing more than man-high when it rears itself

[1] "The marsupials", says the Norwegian naturalist Lumholtz, "are so called from their having a pouch (*marsupium*) for carrying the immature young. The young are born without much development, and they are at once transferred to the pouch, where they continue to grow until they are able to take care of themselves. The pouch is supported by the marsupial bones, which are equally developed in both sexes. There are also many other peculiarities in the structure of these animals, distinguishing them from the higher mammals, *e.g.* their teeth being quite different from those of other animals. The large kangaroo bears a young one no larger than the little finger of a human baby, and not unlike it in form. This helpless, naked, blind, and deaf being the mother puts in an almost inexplicable manner into the pouch with her mouth, and places it on one of the long, slender, milk-giving strings found in the pouch. Here the young remains hanging for weeks, and grows very rapidly. The mother possesses a peculiar muscle with which it is able to press milk into the mouth of the helpless little one, and the larynx of the young has a peculiar structure, so that it can breathe while it sucks, and consequently is not choked. Gradually it assumes the form of its

against a rock or tree, brought to bay by the big dogs, which it will sometimes rip up with a blow of its powerful hind-paw. Only then, its mild face turned to fury, does it show fight in despair, naturally preferring the policy of "live to fight another day", in which it is aided by its swift though awkward gait. The one good part to eat is the tail, made into soup. This is the chief of the kangaroo clan; there are many other kinds, down to the wallabies or kangaroo hares, and the kangaroo rats and rabbits. To the same race belong the shy wombat, burrowing in dens like a badger, a whole village of them together; also the pouched opossum, so much at home in the hollows of gum-trees; and flying-squirrels, flying-mice, and other winged marsupials. The fiercest creatures of this family are the Tasmanian "wolf" and "devil", which have cat-like, cruel ways and non-vegetarian tastes; but these are extinct on the mainland, where some mischievous members of the same class bear the name of cats and some harmless marsupials from their clumsy shape are known as bears.

Australia's one preying mammal, which may have been introduced in recent ages, like some rats and mice, is the dingo or wild dog, that plays a wolfish part among the sheep, and sometimes has been half-tamed by the natives. The settlers make murderous war on this hungry pest, stooping to such weapons as poisoned meat; but the extermination of the dingo means the increase of the kangaroo, that takes heavy toll of grass. It is said that this four-legged bushranger learns to bark from the honest dogs with which he is ready to fight and breed; in his native state he has only a dismal howl, which often kept early settlers awake but is now more seldom heard. The dingo is not found in Tasmania, and, with a price set on his tail, he seems to be in the way of becoming extinct on the mainland, unless in a mongrel form.

One of the most extraordinary creatures of Australia is the *ornithorhynchus*, or duck-mole, which Mr. Aflalo calls "so grotesque a combination of bird, beast, and fish, with its aquatic habits, beaver-like fur, webbed fore-feet, hind-feet made for tunnelling like those of the mole, and the bill of the duck", that when first it was presented to European naturalists, they suspected an impostor *à la* Barnum. Nearly allied to this apparent monstrosity, along with it forming a peculiar class, is the *echidna* genus of toothless mammals, not unlike a large hedgehog with longer spines and slender muzzle, having a narrow aperture for the protraction of a flexible tongue, through which the animal feeds itself on insects, so that one species is known as the porcupine ant-eater. Both of these odd creatures are essentially mammals, though they produce their young from eggs.

In birds Australia is much richer, especially at the north end, having hundreds of species, most of them peculiar or related to the avifauna of New Guinea. It is notable about them that they are much seen by daylight, whereas the beasts are mostly nocturnal in their habits. The largest is the emu, a kind of ostrich, standing six feet high, which runs but does not fly, and can use its strong leg as a dangerous weapon; this is found only in the south and west. Its feathers are of no value, which set Australia on the notion of importing

parents, and when big enough it begins to make excursions from the pouch, which continues to enlarge with the growth of the young. These excursions become longer as the young grows larger, and thus this pouch serves both as a second womb and as a nest and home. All marsupials are propagated in this manner, but the number of young may vary from one to fourteen. The brain of the marsupial is small, and has but few convolutions, indicative of small mental development. They are the most stupid of all animals, and indifferent in regard to all save the wants of their stomachs. Brehm calls attention to the fact that no marsupial mothers play with their young, or make any effort to teach them."

the South African ostrich. The cassowary is still rarer, being confined to Queensland, which chiefly shares such Melanesian characteristics. Other big birds are the Australian eagle, the black swan (elsewhere such a *rara avis*), the pelican, the bustard, the blue crane or heron, with smaller water-fowl in abundance; and on the coasts the albatross, the penguin, and the stupid booby, which has almost to be kicked into moving from its native rocks. The vulture kind seems to be absent. But most common are beautifully-plumaged fliers, not so distinguished by sweetness of song: dozens of parrots, parroquets, and cockatoos, seen sometimes in such numbers as to colour the woods; gorgeous lories; very many sheeny, crested pigeons of varied hues; several fine kingfishers, which do not commonly fish, but pick up a living rather on snakes; the velvet-backed rifle-bird, whose iridescent breast shows it a kinsman of the bird of paradise, and in its ways it resembles the here missing wood-pecker; the lyre-bird, so called from its upraised tail two feet high, which here represents the pheasant, and is sometimes called the mocking-bird from its skill in mimicry. The famous "laughing jackass" is a kind of comical kingfisher, which shows itself not at all shy, and seems to laugh at anyone in trouble, or to utter unintelligible bad language; it is also called the "settler's clock" from the regularity with which it utters its peculiar note at dawn and sunset. A nightjar's comical cry has earned for it the colonial title of "more pork" or "mopoke"; a large family of honey-eaters includes the "bell-bird", whose sudden ringing note leads the thirsty wanderer to water; and a loud chorus of magpies is mocked by the great shrike or butcher-bird among querulous pipings of the quail. There are lovely warblers, finches, and wrens, one of them the emu-wren, that seems a miniature of that big bird, as the diamond-sparrow of an argus-pheasant. Singular are the bower-bird, that makes itself a pleasure-house of leaves or shells; and the brush-turkey, that for its nest builds a mound often so large as to be mistaken for a native tomb, in which its enormous eggs are left to be hatched by the heat of the ground.

With fish some rivers are well stocked, the most notable being the "Murray cod", a kind of perch, which may grow to weigh 100 lbs., and the so-called "salmon" of the Queensland rivers, which is in fact a lung-fish. The seas also abound in fish, including oysters and sharks, against which Australian bathing-places have to be railed in. The schnapper, in shape between a salmon and a John Dory, gives good deep-sea sport, spiced by the gambling of sweepstakes, without which most amusements seem tame to true Cornstalks. The dugong, or sea-cow, grazing on meadows of sea-weed, that perhaps gave a hint for the fabulous mermaid and whose order takes its scientific name from the siren, is now preserved on the Queensland coast, where it had almost been killed off for the sake of its hide, tusks, and oil: this of course, like the whale, counts scientifically among mammals. The skeleton of a whale, 90 feet long, has been presented to the Melbourne Museum by the waves that stranded it on the coast; but whales are not now so numerous as once in Australian seas.

Crocodiles are confined to some rivers of the hot north; but elsewhere are found huge iguanas and smaller lizards, also water-snakes and land-snakes, unobtrusive, as is the manner of their kind, but several of them venomous, like the death adder, whose bite kills in a few minutes. There are different kinds of frogs, that have developed a remarkable ability to live through the long droughts, when natives know how water can be squeezed out of their bodies. There are

beautiful butterflies, especially large and splendid in the north; many curious beetles, among them the mantis with its protective trick of mimicry; huge grasshoppers, troublesome flies, and plenty of mosquitoes. There are stinging scorpions, centipedes and spiders; white ants and true ants and ant-eaters; with other plagues of a warm climate. Locusts here seem to do little mischief, feeding by choice on wild honey. The indigenous bees are very tiny and stingless; but our big bee has been introduced to improve many shining hours.

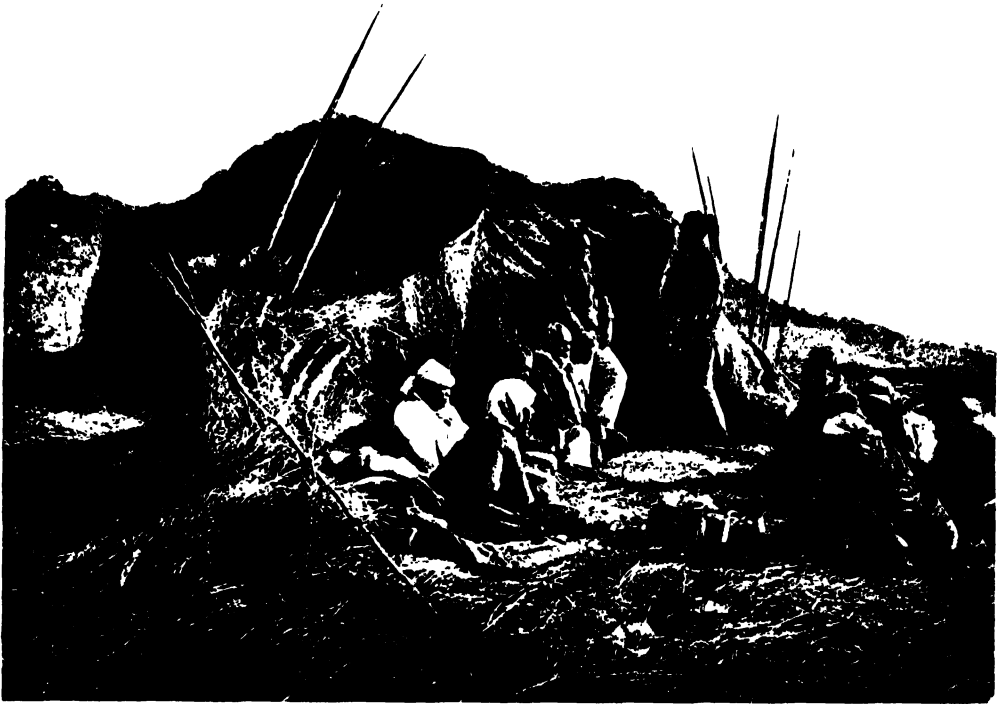
A less welcome importation is the English rabbit, which throve so prolifically in its new environment as soon to become a positive pest rather than a nuisance; and though we need not take as literal Mark Twain's story of people having to

A Native "Wurley"

Photo. Kerry, Sydney

dig roads through the rabbits, it is a fact that poor Bunny finds himself hunted down with vindictive but ineffectual energy, the colony of Victoria alone spending in one year £20,000 on this public service. The rabbits have adapted themselves to their new circumstances by learning to climb walls and swim rivers, one of several striking instances, both in the animal and the vegetable world, of the quickness with which necessity schools nature. The British sparrow also is already too much at home in Australia. Native pests which seem to have spread from the north, are a tick-fly burrowing beneath the skin of cattle with often fatal effect, and a moth so destructive to fruit that Tasmania has been fain to keep it out by putting Australian apples in quarantine. The colonists have not been altogether happy in their attempts to disturb the balance of nature. In some parts poison used for rabbits has killed off the birds, with the result of multiplying a plague of insects.

Among the nuisances of Australia the settlers are inclined to count its natives,

the "Blackfellows" by nickname, though they are rather dark-brown with thick black curly hair and beards, and usually a coating of grease and dirt that hides the colour of the skin. On them, too, nature seems to have tried "her 'prentice hand", an ugly race of receding foreheads, big mouths, prognathous jaws, squat noses, lean limbs, and average stature, with an occasional appearance of finer features, even of the type marked as Jewish. Distinct either from Papuans or Polynesians, they have, like some of the former, been classed among the lowest of the human race; yet those who know them best often protest against this estimate as unjust. There appear to be considerable differences among them, a rather higher type having been developed where food is less plentiful and resource called into action. In point of comfort and civility, they have generally achieved little during the long ages of their isolation from the rest of the world. Herded together in wandering bands, they have neither fields nor villages, and but the rudest notions of religion and government. They lie usually in the open air, perhaps hollowing out nests in the sand, only in bad weather erecting shelters of boughs and bark, or huddling in caves. They go naked without shame, unless they can get blankets or cast-off European clothes, used for display rather than comfort, a gaudy handkerchief to knot round the head seeming to them the most desirable garment. For protection against cold or thorny thickets, they may wear skins fastened together; for a slight attempt at decency "sporrans" of hair or shell; and they adorn their heads with grotesque ornaments in true savage style. The custom of piercing the nose is common, in which queer receptacle they may be seen carrying their pipes, as their matted hair serves for a pocket. They have also the savage fashion of knocking out front teeth at a certain age, and of gashing the body with sharp stones to raise lifelong scars, admired as marks of manhood or beauty; then on great occasions they make themselves extra hideous with stripes of paint. An ordinary punishment among them is running spears through the offender's arms and legs, so that one given to thieving bears an indelible brand of his bad character. A woman's body is more often than not disfigured by the cruel chastisements of her lazy and ill-tempered spouse, by whom she was bought or stolen, perhaps knocked down to begin with in the way of courtship. These "gins" or "lubras" have a truly savage lot of inferiority. There is a story of an explorer asked if his bullocks were the white man's *gins*, because they carried the baggage!

The blackfellow's chief business in life is getting food, and even this he leaves much to the women. Most of the tribes have been, and still sometimes are, given to cannibalism. They are almost omnivorous, eating roots, leaves, berries, fungi, worms, ants, snakes, eggs, honey as a special treat, or anything they can get; but their favourite food is the flesh of animals, and fish, raw, or cooked by being slightly roasted or baked. They had no means of making fire except by friction. For utensils they had nothing better than shells, pottery being unknown to them; and for tools sharp stones or shells and needles of pointed bone. They can sew after a fashion with sinews or hair, and make bags of network, sometimes baskets, to carry their few possessions, nowadays increased by pots and other conveniences got from the whites. Like the African bushmen, they display some turn for drawing, and for carving, like their Papuan neighbours. Bits of wood, scratched with hieroglyphic hints, sometimes serve them as letters. They are clever at climbing trees, by cutting notches in the trunk and by looping their bodies to it with flexible creepers. Their patience and

activity on occasion are well matched by their indolence when food comes easily to hand, as seldom is their lot. Their chief ability lies in a sleuth-hound keenness of sight and smell, trained by the needs of hunger. Their powers of tracking game, and reading signs of danger that would be invisible to a Sherlock Holmes, appear to surpass even the keen senses of the American Indians, who have ranked as masters in trailing, a talent making them valuable assistants to the colonial police. Like the American Indians, too, they are found telegraphing from band to band by means of fires and puffs of smoke. Their rallying cry, *Cooey!* has been adopted by the settlers. Their languages are unstable dialects of the same stock; and with the whites they learn to converse in an extraordinary jargon of English eked out by gesture.

Photo. Kerry, Sydney

Blackfellow climbing a Tree

Slaughter being the art to which a savage gives most attention, the weapons of the Australian aborigines are much above their other implements; also they show themselves ingenious in constructing weirs and various devices for fishing, as they are expert in diving and spearing. They seem never to have hit upon the bow and arrow; but they have some notable missiles, the making and use of which baffle white men's skill. The best known of these is the *boomerang*, a curved piece of wood about a yard long, which they can hurl so that it takes a circling course and comes back to the thrower. There is also the *weet-weet* or "kangaroo-rat", smaller and much lighter, artfully flung so as to make "ducks and drakes" over the earth for two hundred yards or more, "leaping like a live thing and hissing like a rifle-ball". Then there is the notched "throwing-stick", with which a native warrior gives momentum to his light spear. He had need to be not less clever in dodging such swift missiles or catching them on his narrow wooden shield. We know what Australian bowlers

are; and a government official tells us how he has seen a native stand up against several professionals for half an hour, avoiding or stopping all the balls they kept pitching at him from a distance of ten or fifteen yards. For native bowlers, throws of 130 or 140 yards are recorded. Clubs or wooden swords also play a great part among their weapons; but when with such means of offence and defence they fall to fighting, tribe against tribe, there is usually more noise than killing. Hardly less exciting are the fierce spectacular dances or "corrobories" that make their chief amusement, pantomimes of mock warfare into which they enter with such zest as sometimes to work themselves up to bloodshed in real earnest, while on other festal occasions they meet for the avowed purpose of settling disputes or prowess by duels. Their most advanced political institution appears to be a scrupulousness in trespassing on another band's hunting grounds, and their highest religious idea the acquired hope that they may come to life again as white men.

In the early days of Australia, its natives made bad neighbours to the settlements, always ready for massacre and treachery, and slow to be won by kindness, as might be expected of a people with whom infanticide and the butchering of the old are customary. Kindness, indeed, has been little tried on them. In the north, where the breed is strongest and fiercest, the blackfellows gave most trouble, and in some districts have not yet ceased to be dangerous. The early settlers killed them down like vermin in revenge for their stealthy assaults. Of bands exterminated by poison there is more than one revolting story, to set against many of white men who disappeared by a fate that sometimes could only be surmised. As the colonists grew more at ease, protectors of the blacks were appointed and efforts made to fix them within or about the pale of civilization, by employing them as servants, and by setting apart reservations in which they might live undisturbed. More humane intercourse with them has brought out better qualities than they always got credit for, a quickness in learning, a keen sense of fun, instances of gratitude and devotion to a white master. Tobacco is one boon of civilization to which they take most greedily, and it passes among them like money. From the Chinese some of them have picked up a ruinous love of opium, and all are too fond of what spirits they can get. Regular industry is seldom a savage virtue; but some of these blacks, caught young, do good service as stock-herders, and as native police become keen in hunting down their own people—"dispersing" is the euphemism for setting these human bloodhounds at a troublesome band. Missionaries seem to get little hold on them, as unfortunately cannot be said of the Christian's vices. Far more deadly than our weapons are the diseases we have spread upon them. The half-caste breed dies out soon without giving hopeful signs. The whole race stands in danger of extermination. When we first landed in Australia, they are supposed to have numbered no more than 150,000; and now the dwindling and degraded tribes are put at from a fourth to a half of this number, a calculation hard to make exact, as they lurk chiefly in the least accessible wilds of the interior, known then as "myall blacks" in distinction from the tamer bands about the settlements. One account, indeed, goes as high as 200,000 still living; but in any case, like the flora and the fauna of their native land, they seem doomed to be supplanted by more vigorous intruders.

The origin of this isolated race makes one of the puzzles of ethnology. The only thing clear about them is that their stock of blood and speech is a joint one,

here and there on the coast, perhaps, tinged by immigration from surrounding islands. They have the remarkable totem-clan organization, descent by the female side, circumcision, the initiation of youths by suffering, the sorceries of mumbo-jumbo medicine men, and other barbarous institutions widely spread over the world. Mr. Andrew Lang has pointed out how the "bull roarer", that toy of our country boys, still figures in the sacred mysteries of an Australian tribe. But such coincidences of civilization and savagery only raise that hotly-debated point of folk-lore, whether man has brought down all his strangely-resembling yet varying legends, customs, and ways from a common origin, or has evolved them under similar circumstances from a nature that so often shows him akin to brethren whose names he never heard. Some writers find the nearest relationship for the Australian natives in Africa; some connect them rather with the hairy Ainos of Japan. But Mr. Alfred Wallace, with other authorities, is inclined to trace them to our own Caucasian stem, so that the poor blackfellow might claim distant cousinship with a race that looks down on the stately Maori as on the sleek Malay.

THE COMMONWEALTH

As the young settlements spread from their original foothold, roomy stretches of territory came to be marked off as separate colonies, each of them with its own constitution, legislative body, and a governor representing the Crown, his post much that of a figurehead, unless when sometimes he might be called on to act for the Colonial Office as a drag upon hasty legislation. Keen rivalry sprang up between these quasi-independent states, whose sentiment of provincial patriotism, along with real differences of resources, interests, and origin, long kept them jealously apart. From the home authorities, about the middle of last century, came the first suggestion of union, which a generation later began to be seriously pressed in Australia. In 1891 a colonial convention met to discuss the proposed federation; but the question was adjourned for several years by a severe financial crisis from which the older colonies have not yet fully recovered. In 1898 a second assembly drew up a constitution, which, when submitted by *referendum* to popular vote, did not secure preponderating assent. Next year, however, after revisal, it was accepted by the different colonies, West Australia alone holding out for a little against it, while New Zealand, invited to throw in her lot with Australia, preferred to retain her isolation, as did not Tasmania. There was less difficulty in passing the measure through the Imperial Parliament. One hitch, indeed, arose as to the question of appeal to the sovereign in council, settled by a compromise that gave the Australian Supreme Court a right of decision in disputes involving colonial interests.

The new machinery of government is a Governor-General, a Senate of six members for each colony, and a Lower House of representatives in proportion to the population of each state, both elected by what is practically universal suffrage, the Senators for six years, the Lower House for three years at most. The Federal Legislature, as in the United States, has control of national defence, of external relations, of customs, of public debts, of means of communication, with special inclusion of such matters as immigration, regulation of labour, railway making, which were likely soon to prove burning questions. Of the

revenue collected by customs, one-fourth was, for ten years at least, to be retained for federal purposes, the rest given over to the provincial treasuries. The subordinate states, as in America, kept their own legislative institutions for home rule in all points not affecting the general interest, so that this population of three or four millions is still officered by half-a-dozen governors, some dozens of ministers, some hundreds of representatives, and some thousands of officials, apart from the central government. Sydney and Melbourne were too equal rivals for either of them to be chosen as the capital; so it was provided that, after the model of Washington, a new seat of government should be fixed in

Town Hall, George Street, Sydney

Photo. Kerry, Sydney

the territory of New South Wales, but not less than a hundred miles from Sydney. As such a capital could not be made in a day, the Federal Parliament was called together at Melbourne, where in 1901 its first meeting was opened by the heir to the Crown. Thus, at the beginning of this century, the new Commonwealth started on its way, uniting the destinies of the six colonies, which we are now to survey separately, beginning with the oldest and as yet the most populous.

It may be said of them all that their laws have a general tendency to popular interests and experiments at socialism, inspired not so much by any socialistic principle as by calculations taken to be for the advantage of the masses. There has been a well-meant disposition to help the poor man rather than the rich; and the wage-earner, helping himself not to be poor, has been much persuaded to look on his country as a kind of club that is to flourish by exclusiveness. Under the influence of glib demagogues and the tyranny of labour unions,

it seems the height of patriotism to restrict fresh immigration that might lower the high rate of wages, while at the same time enormous sums of borrowed money are sunk in public works that can prove remunerative only through a great expansion of the population. The communities have also spent generously on educational and benevolent institutions in the chief cities, where indeed banks stand often prominent among the public buildings as a significant hint of how far their prosperity is based upon credit. The churches, not less conspicuous, are due to individual effort, for our children over the sea have broken away

Collins Street, Melbourne. (From a photograph.)

from the example of the mother-country, in recognizing no state church, and in establishing a secular system of free education. The legalization of marriage with a deceased wife's sister, the introduction of female suffrage, payment of representatives, are examples of other matters in which they have outstripped reforming achievements at home. The Supreme Court that is to interpret the Constitution is borrowed from the United States; and from Switzerland has been adopted the Referendum, that gives a direct appeal to the people in any deadlock between the legislative bodies. The main difference between the policy of the colonies was in their varying measures of protection and fostering of local industry by checks upon competition and bounties for production, a matter as to which the Cobden Club has little honour in Australia. It is a curious instance of how argument becomes driven home by interest that in the Antipodes agriculturists are found clamouring for free trade and working men for protection, the demands of the latter going as far as a state provision of work at high wages, which may be considered a logical development of interfering with the

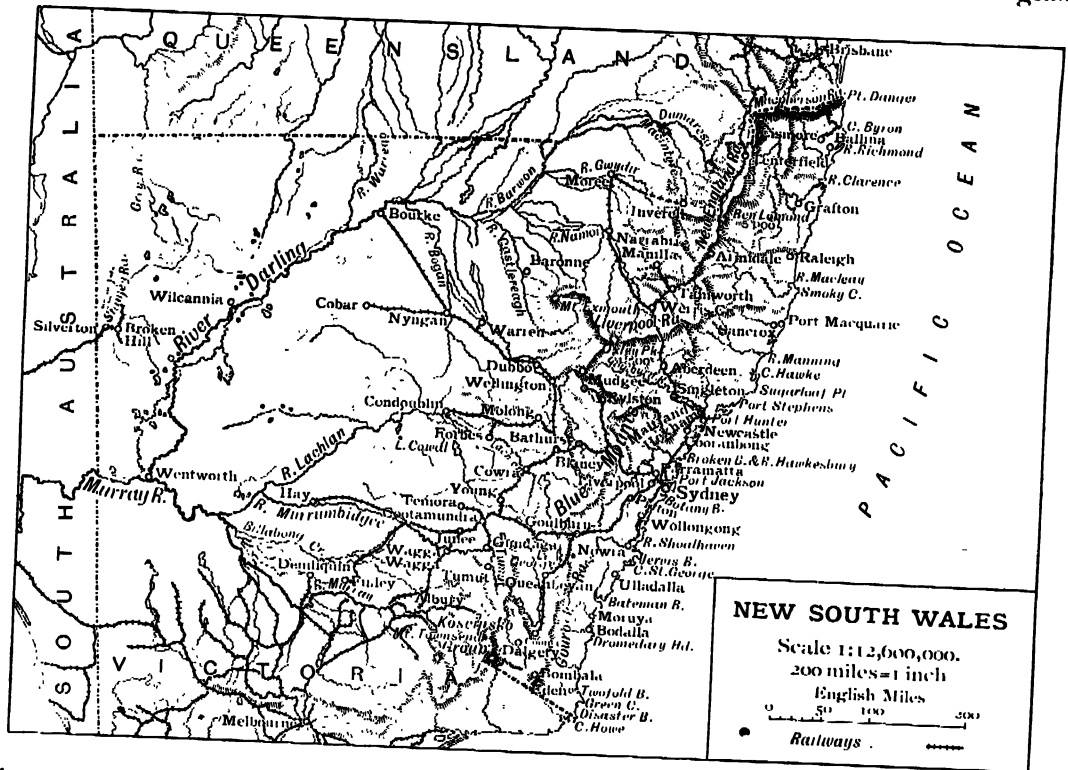
natural course of demand and supply. Among the colonies Victoria went farthest in such manufacture of artificial prosperity, while New South Wales had most fully recognized the benefits of free trade. This discrepancy was, of course, one of the main hindrances to federation; and the compromise of policy agreed upon seems not very stable, when in the first few years more than one of the states has talked of secession.

The Commonwealth has the nucleus of an army that could soon be expanded; it now introduces a system of compulsory training, and prepares to add a contingent of its own to the imperial navy. The Australians show themselves chips of the old block in a bellicose insular spirit, and they have embarrassed the more cautious home government by prompting a foreign policy of their own, a South Sea adaptation of the Monroe doctrine, which strongly resents the fact of other European powers presuming to emulate our enterprise at this end of the world. Even towards the "old country", with all their loyal sentiment, when it seems too slow in backing up their pretensions, they are apt to take a tone that shows how readily united Australia might aspire to become autonomous. But the Federation is still too young for forecasts of a future, in which it can never want Britain's best wishes. The mother of nations, wise by experience, is little likely to repeat her mistake in the case of America by striving to keep any offshoot in unwilling dependence; and if ever the Australian Commonwealth set her heart on complete independence, she might go in peace. Another development, more devoutly to be wished, may be a wider Federation that would knit more closely the whole British world.

NEW SOUTH WALES

It was on this south-eastern shore of Australia that Cook first reared the British flag at Botany Bay, and at the adjacent Port Jackson in 1788 was formed the first convict settlement, that in a century had developed from a forlorn hope of huts and tents into the great city of Sydney. For some time the colonists were confined to the coast strip, till the exploration of a way over the Blue Mountains opened up rich plains beyond, where so much golden fleece has been sheared from merino sheep introduced into the half-starved settlement by Captain MacArthur. In the middle of the century, first Victoria, then Queensland were cut off from the parent colony; but it remains as large as England and France put together, with a coast-line of 800 miles and an inland breadth of more than a dozen degrees, the population as yet being about equal to that of Glasgow and Liverpool rolled into one, so that there is plenty of room for more. It is divided into over a hundred counties, each of some million acres. Its varied surface gives it a share of almost all the colonial resources, the northern coast between the Tweed and Clarence rivers being warm enough for the sugar-canes of Queensland; but its special prosperity has come from the breeding of cattle and sheep. Its principal mineral wealth appears to be in extensive coalfields. For gold it is not so well off as its neighbours; but it has fairly productive veins of this metal, as others of silver, copper, lead, iron, tin, &c., also large deposits of kerosene, shale, alum, quarries of excellent stone, and a sprinkling of such gems as diamonds and opals.

The country falls naturally into three regions:—(1) The coast, where sometimes the mountains stand back a day's march or more from the sea, and sometimes press towards it in transverse spurs. (2) The ridges and table-lands of the Great Dividing Range, which in the south rise to their greatest height, but in most parts offer intervals of fertile land. (3) The broad lands beyond, which as yet are much more thinly peopled, and in some parts hardly organized.

The oldest towns stand on or near the coast, which is broken by the mouths of fifteen considerable rivers and many good harbours. The scenery of these estuaries is often very picturesque; and the ports formed upon them may some day grow into cities, several already equalling the population of a small English

borough. More than a third of the whole state's inhabitants are gathered into and about the oldest of all, far spread behind Sydney Harbour, originally Port Jackson, which, opening narrowly through the natural piers of two rocky headlands, runs deep into the land with so many long arms of blue water thrown out among tinted cliff faces, wooded mounds, and strips of yellow beach strewn with delicate shells and brilliant sea-weed, that the gulf is said to measure hundreds of miles round all its windings. It forms a harbour at once safe, spacious, and rarely beautiful, which may be compared to our Plymouth Sound many times magnified. Anthony Trollope, after seeing a good deal of the world, had seen nothing finer in the way of land-locked sea scenery; and this is the general verdict of travellers, not less loud in admiration of the city which Melbourne will not allow us to call the capital of Australia, but which is certainly its metropolis, as well as hitherto its chief port, and in the last quarter of a century has grown fourfold to a population of more than 600,000.[1]

[1] Sydney's early days recall a story of special interest to the writer, one told at the time by Mrs. Grant of Laggan.

"An English city with American trimmings" is Mark Twain's impression of Sydney, where another traveller says he might have fancied himself in London but for the uncouth names upon the suburban omnibuses and trams—*Woolloomooloo*, *Coogee*, and so on. The irregular lines of its original main thoroughfare recall the beginnings of a century ago, and some waterside bits suggest Portsmouth Hard; but the humble features of old Sydney are almost overlaid by smart streets and handsome public buildings inviting comparison with any European city, among them Government House, the Government buildings, the unfinished Cathedral, the Post Office with its tall tower, the Hospital, the Museum, and the University; the Parliament has hitherto been housed in an unpretentious manner, but, fired by the example of Melbourne, Sydney designs a stately dome for the local legislature. What few European cities can boast is the setting of parks and gardens, rich in the productions of a climate like that of Italy without its extreme of cold. The Botanic Gardens are specially notable for their exuberant show; then Sydney has its Hyde Park and other public grounds; and on either side, within easy reach by rail, two magnificent stretches of wild scenery, with a sea frontage of several miles, preserved in all their native picturesqueness, a kind of pleasure-ground hardly known in crowded Europe. Among the city's pleasure resorts, a few miles off, is Botany Bay, which at home quite unjustly bore the reproach of being the convict station fixed at Port Jackson. The environs are very attractive, where some of the suburbs extend along the sea or far back among the hills, so that its well-to-do citizens can spend half their lives out of the busy streets. The cheaper quarters, however, are more commonplace, stretches of jerry-built brick, without even the unsanitary picturesqueness of old-world slums. The harbour has docks and quays for a world trade, carried into all parts of the colony by a railway system ramifying from Sydney. The bay is strongly fortified, one of its islands being used as a naval station; and its waters are garrisoned by a peculiar species of shark that puts bathers on the alert. On a small islet, once a place of confinement for refractory convicts, it is proposed to celebrate the Federation and rival New York's beacon of Liberty by a colossal statue of Australia facing the dawn, holding aloft a crown of stars, one for each state of the Commonwealth. Yet Sydney was set against a union that at once by its general tariff barred the free port to which she believes herself indebted for her recent prosperity; and in New South Wales, as in Queensland, there seems to be a good deal of discontent with the new régime.

By a line of suburban dependencies, the oldest Australian railway runs 15 miles inland to Parramatta, near the head of one branch of Sydney harbour. This town, founded about the same time and once regarded as the capital, has

and worked into the plot of Mrs. Oliphant's last novel. In 1808 a British regiment was sent to Sydney, not with its own good-will when more stirring scenes were about to be enacted nearer home. As grandson of one of the soldiers thus exiled to be a guard for convicts, the writer can point to a family record, marking how the oldest of our Antipodean colonies has grown up in one long lifetime. A year before, this young English officer, then stationed at Stirling Castle, had made a runaway marriage with a Highland lass. There came a baby, for whose sake her parents began to relent towards the stolen match. When the regiment got its unwelcome marching orders, and the bride was for following her husband to the other end of the world, the parents made this proposal: let the infant be left with them and all would be forgiven and forgotten. The bargain was made, but soon repented of by the young mother. Finding herself at Southampton with a fortnight to spare before the transport sailed, she posted back all the way to the middle of Scotland, and insisted on having her child. As Mrs. Grant, a neighbour and friend of the family, relates, the old people had let the grandchild twine its charms round their heart-strings. Against the mother's demands they brought a doctor's certificate that the delicate baby would die if taken on such a journey. But the mother-love was not to be denied. The baby was carried off to Southampton, to the Antipodes, in 1808, and up to 1905 enjoyed a venerable old age. The moral is that doctors are not infallible, nor fond grandparents.

not kept pace with Sydney; but it prides itself on better preserving its old-fashioned features from days when it was the colonial Windsor, whose park is now a public one, surrounded by orange groves that are the special growth of the neighbourhood. Not far off, on the Hawkesbury river, there are a Windsor and a Richmond, which also have a more mellow look than most Australian towns, but thrive as centres of a country not at all given up to Rip Van Winkles. Behind rise the ranges of the Blue Mountains, once looked on as a forbidding boundary for the colony, now dotted with villas and health resorts, where city folk take bracing refuge from the heat rather than by the hot seaside of an ocean which here commonly justifies its name of Pacific. The banks of the Hawkesbury, in its upper course known as the Nepean, and falling into Broken Bay north of Sydney, were by Trollope judged the most beautiful part of Australia; but in his day the Blue Mountains had not been so well opened up by tourist stations within easy reach of Sydney by rail, Katoomba, Blackheath, Mount Victoria, and others, among beautiful highland scenes, adorned by numerous waterfalls. In a limestone belt lie the renowned Jenolan Caves, where stalactites and stalagmites furnish with their wonders of form and colouring vast openings known by such names as the Grand Arch, the Imperial Cave, with its "crystal city" of snow-white limestone, the Bone Cave with its encrusted animal remains, the Devil's Coach House, the Sculptor's Studio, and so forth. These freaks of nature, surpassing our Cheddar and Peak caverns, naturally make one of the show places of the colony; but in the southern part of the range the as yet less accessible Yarrangobilly Caves are said to be in some respects still more extraordinary.

Photo. Kerry, Sydney

Katoomba Fall, a "Beauty Spot" near Sydney

The largest gatherings of population may be looked for on the railways, which behind Sydney go off in three main lines. From Parramatta turns off the southern line, running along the mountain chain, by Liverpool and Campbelltown, to Goulburn, which, 134 miles from Sydney, 2000 feet above the sea, counts as the principal inland city of the colony, and is noted for its handsome buildings. Hence, the main line crosses the mountains to be joined, where it turns south to the Victorian frontier, by another coming from the northern interior. A branch from Goulburn strikes 130 miles south to Cooma and the Alpine region about Mt. Kosciusko, on the way passing Lake George, which with no known outlet is the largest lake basin of the colony, but at times almost dries up, giving pasture

Zigzag Railway over the Blue Mountains, New South Wales. (From a photograph.)

for sheep instead of wild-fowl. This line it is proposed to extend to meet one from Melbourne into the Gippsland region of Victoria. From Sydney another southern line follows the sea-coast for nearly 100 miles, passing by the plateau of the National Park, by the southern collieries, by the Illawarra strip called the Garden of New South Wales, and by the fine scenery of Wollongong, to Kiama, then has its present terminus at the Shoalhaven river.

The Northern railway from Sydney rounds the grand inlet of Broken Bay and crosses the picturesque Hawkesbury river, holding on near the sea to Newcastle, the second port of the colony, that stands about the middle of its coast-line, at the mouth of the Hunter river. Newcastle, as the name suggests, is outlet of an important colliery district, the chief working of which bears that other familiar name, Wallsend. Thirty miles up the Hunter, East and West Maitland make a centre of agricultural and manufacturing activity. By the Hunter valley the railway turns inland, crossing the transverse Liverpool Range,

and on the Liverpool Plains beyond throwing off a branch towards the Darling, while the main line holds northwards into Queensland along lofty table-lands of the Dividing Range, known as New England, where on the slopes of Ben Lomond the line reaches its highest point, 4471 feet. Tamworth and Armidale are the chief towns on this northern stage, about 100 miles back from the sea. The coast strip is too rough for a railway; but it has sea communications by several ports and estuaries, as that of the Clarence river, 45 miles up which is the little city of Grafton.

Returning now to the Western railway inland from Parramatta, we should find it carried in boldly engineered zigzags over the Blue Mountains, a chain of sandstone ridges and gorges, steeply scarped on the east, but sloping more gently to the great plains beyond. The whole of this central zone is the most picturesque and bracing part of New South Wales, yet seldom too rugged to give homes and fields to the settlers. Across the mountains, the Western railway goes on to Bathurst, between which and Orange, farther on, was made the first New South Wales discovery of gold in 1851; and these two towns vie with each other for the title of Capital of the West, for which other claimants are springing up in the still not fully developed country beyond. For now we descend into the third and largest zone of New South Wales, the great plains and stretches of bush and scrub watered by the Macquarie, the Lachlan, the Murrumbidgee, and other rivers flowing westward into the Murray, the southern frontier line of New South Wales, or into its great tributary the Darling, which, crossing the whole colony from Queensland, makes the longest but not the fullest Australian water-course. The Darling is intermittently navigable for over 2000 miles from the sea; but its basin is subject to shrivelling droughts, when the rivers dry up into a chain of pools, the smaller ones become streaks of glowing sand and shingle, and the grass turns to dust; then again a deluge of rain floods the plains to an inland sea, on which small steamers can wander out of the tortuous channel, cutting through the fringe of timber on its edge.[1]

At Bathurst the Western railway divides, one line going off north-west to Bourke, on the Darling, 500 miles from Sydney, with branches, one of which may be extended as a transcontinental road. The southern branch goes by the scenes of "Robbery under Arms" and the town of Young, which, like so many others, began its career as a gold-mining camp and became a thriving agricultural centre, with a strong Irish element of population. At Murrumburrah this branch

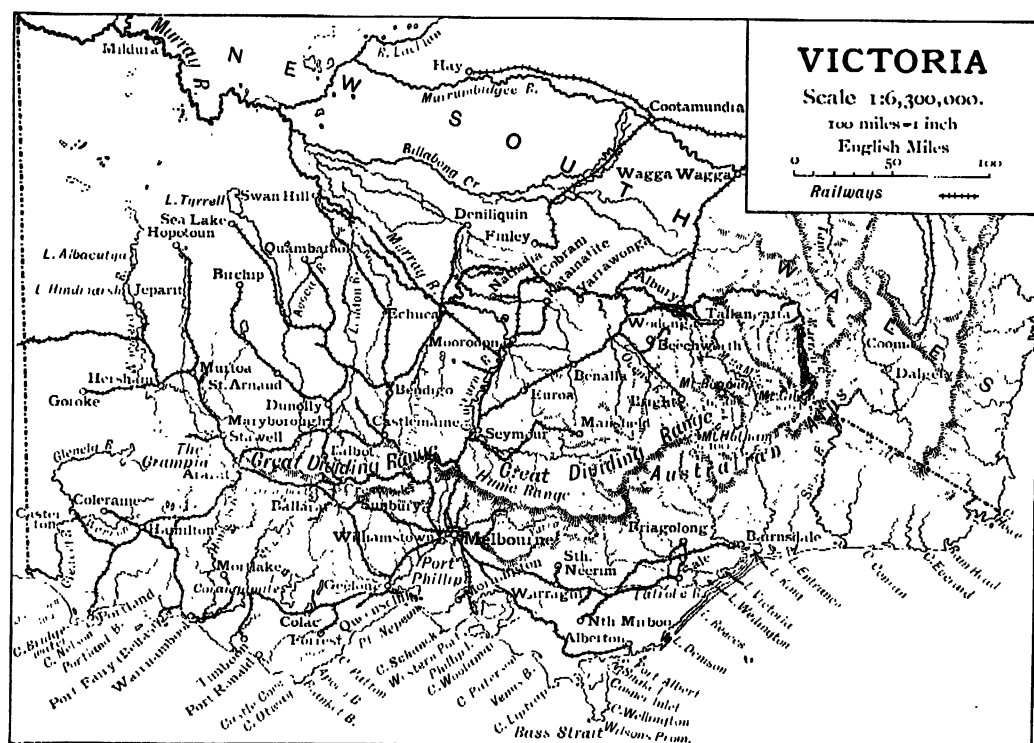
[1] "In a life of which much has been given to travel in search of the picturesque, I have seen nothing so exquisite, so ethereal, so unearthly, so altogether apart from all other forms of beauty, as the Murray river in flood. I travelled by steamer from Morgan to Mildura, a journey of three days, and from the beginning to the end of the voyage was enchanted. The stream at this time was of an average width of 5 miles—it was 9 miles wide in places—and for two days the steamer held its way through a noble forest of eucalypt which stood knee-deep in water. In the lonely, lovely forest glades the water slept so glassy still that every tree was mirrored to its finest twig and topmost leaf. There was not even a ring of moisture on the trunks to show where the real trees ended and the mirrored trees began. The doubled forest lay about us on every side save in the rear, where the ripple caused by the boat's passage confused the reflected forms. The sky lay jewel clear above, and jewel clear below. The flocks of wild-screaming white cockatoos, which crossed our path at times, were seen as clearly in the mirrored concave as in the actual atmosphere. The illusion was absolute and complete in many places where the sleeping waters gave not even a passing gleam, and the real rested on the pictured columns, and the real and the pictured masses of dark foliage hung under and over, as if the whole beautiful scene were suspended before the eye by some strange enchantment, poised in rich-coloured air. And to see the sunset pave the watery forest aisles with gold and amber, and scarlet and violet, and all sunset hues, and to see it build stained windows of exquisite dyes at the far end of the solemn ways, and to watch the windows, in aisle after aisle, as they faded and faded and faded, was to enjoy such a feast of beauty as I had never known before, and can hardly hope to find again. Take it for all in all, the great Australian island-continent is stern and repellent to the unaccustomed eye, but there are countless spots of beauty in it, and the more familiar one grows even with the savage raggedness of the bush, or the awful desolation of the plains, the more one finds eye and spirit alike reconciled."—D. C. Murray's *Cockney Columbus*.

joins the main Southern line, that has crossed the mountains by Goulburn; and now, passing over the Murrumbidgee, it descends to the Murray river at Wagga-wagga, where the Tichborne claimant was discovered. Albury, on the Murray, may be called the terminus of the line, for here comes a break of gauge, requiring passengers to turn out and take another train into Victoria, since the separate colonies have been too jealous to see the advantage of a general railway system. At Albury, too, before the Federation, travellers had to pass through a custom-house in entering the protectionist neighbour colony. Down the Murrumbidgee a branch goes to Hay, chief town of the Riverina, as the flat open basin of the Murray's chief affluents is called. This enormous and thinly populated tract has been one of the great sheep-breeding regions, thanks to the salt in its soil and to an abundant growth of the drought-resisting salt-bush; but it begins to be invaded by corn-fields, now that the railway puts it in connection with Sydney, Melbourne formerly having been its nearest market, and that a distant one barred by hostile tariffs.

The far western part of the colony, across the Darling, "out back", is still cut off from the eastern side, but into the southern corner of it a railway runs from Adelaide in South Australia. The object of this line is Broken Hill, which owes its sudden prosperity to extraordinarily rich silver deposits discovered twenty years ago in the Barrier Range that here bounds New South Wales; then it lately had a turn of adversity in the long drought that crippled the workings. Broken Hill has one mine said to be the richest in the world; and its streets are appropriately named by such titles as Argent, Oxide, Iodide, Mica, &c. The oxidized ores, from which came the first flush of wealth, are now mainly used up; but chemistry can work upon a combination of sulphide of silver and sulphide of zinc, which seems to hold an almost inexhaustible supply of a metal not so precious as it was a generation ago. The northern wilds beyond the Darling are roughened by scattered heights, in which perhaps further mineral riches lie awaiting development by New South Wales and Queensland.

The rank of Washington of the new Commonwealth has been hoped for by Albury, Bathurst, Orange, and other places, which on this point show a wonderful unanimity only in decrying the claims of their rivals. In Australia, as in America, parish patriotism is very strong, each little mining camp and farming centre being keenly conscious of the possibility that the next generation may see it a Ballarat, a Melbourne, or a Chicago, whereas our quiet-living English boroughs and villages are fain to be more content with that state of life unto which it hath pleased God to call them. After much hesitation and some intrigue, the hitherto obscure name of Tumut having first been brought forward, the Federal Parliament fixed the site of the Australian head-quarters at Dalgety, a small town on the Snowy river, nearly 300 miles south of Sydney, and not far from the north-eastern corner of Victoria; but New South Wales, as ground-landlord, refused consent. So for years the Commonwealth was not yet fitted with a capital, though it had many towns most willing to take upon themselves that distinction—Melbourne well content to go on playing the part of seat of government, while Sydney consoled itself by having grown a little larger than its rival. A site on the Yass, some 150 miles south-west of Sydney, seems now approved by both Houses; but the unimposing name of Yass-Canberra will probably be improved upon.

VICTORIA

Australia Felix was a name proposed for the coast about the original nucleus of Port Phillip, which developed into a country fittingly called after Queen Victoria, its settlement being as old as her accession, though its independence of New South Wales dates only from the middle of last century. It is belittled by jealous neighbours as the "Cabbage Garden", in allusion to the fact of its being only about as large as Great Britain; but it is far the most thickly peopled of all the Australian colonies, having nearly a quarter of the population of London, that is, more than 13 persons to a square mile as against less than 4½ in New South Wales down to not quite one-fifth of a person at present in West Australia.

It also claims to be the most prosperous, a claim disputed by its big senior to the north. It certainly appears the richest in proportion to its size. The first wave of this prosperity came early with the rush for gold, and it has now spread more calmly over nearly the whole range of colonial resources. Victoria has specially addressed herself to manufactures, maintained by protection, bolstering up her agricultural industries also by a system of state aid which does not commend itself to old-fashioned economists; and she is now inviting British farmers.

The climate of this south-eastern corner is more temperate, but rather less equable than on the east side, with sudden extremes brought about by furnace blasts from the north and cold breaths from the Antarctic that seem to mock the hot sun. The conformation of the land, too, lends itself to variety of weather; and this country is not so subject to devastating droughts as are the central plains. The Dividing Range here turns westward, spreading itself over a great part of the colony in a network of forest-clad chains, enclosing grassy downs and park-like

plains. The Bogong Range and other points rise to over 6000 feet, and the picturesque features of these mountains have given parts of them the names of the Grampians and the Pyrenees. There are many volcanic cones, their extinct craters sometimes filled with beautiful lakes. To the generally broken character of the country an exception is the large north-western corner taken up by a flat expanse of scrub, salt swamps, and desert. The northern boundary for nearly a thousand miles is formed by the Murray, the largest of the Australian rivers, that, rising in the Australian Alps, and receiving most of the interior drainage of the Dividing Range, ends its course of 1300 miles in South Australia. Some streams, indeed, lose themselves in salt and sandy wastes; and those outside the range, flowing to the coast, are inconsiderable. The eastern stretch of the shore is low and straight for 500 miles, broken only by large salt lagoons, behind which lie the rich downs and plains of Gippsland. The western end is little less monotonous; but the centre is indented by several bays and deep gulfs, the most important of them Port Phillip, the cradle of the colony. Behind its heads opens a wide shallow inlet into which flows the Yarra-Yarra, and to the mouth of this muddy stream gathers all the commerce of Victoria by the railways that replace navigable rivers.

The port of Sandridge here was originally christened Port Melbourne after Queen Victoria's first prime minister. Behind this, a little way up the river, spreads Melbourne, which boasts itself the largest city of the southern hemisphere. Like London it has a City proper, but of straight regular streets, about which cluster a collection of separate municipalities, making up an aggregate of over half a million people. Melbourne may well be proud of its handsome public buildings, its Parliament House, Government House, Government Offices, Law Courts, Town-hall, Post-office, Mint, Museum, University, Public Library and National Gallery, Stock Exchange, Trades' Hall, Markets, Hospitals, Anglican and Roman Cathedrals, and many other striking edifices, including the permanent structure of the Exhibition held here in 1888, when the city was not half a century old, to commemorate the hundredth birthday of a continent that opened its eyes as a convict settlement. Churches are numerous; so are theatres, music-halls, and other places of entertainment. The shops and arcades of Collins Street contrast strongly with the slums of meaner quarters, about Bourke Street for instance, in which may be found the exotic feature of Chinese opium dens, and the haunts of the "larrikin" dregs of colonial life, that is not too young to breed poverty and crime shrinking out of the glare of electric light. Another marked contrast is between the plain two-storied houses with which respectable Melbourne was at one time content, and the pretentious banks, warehouses, and offices that are now raised to a dozen stories, where land has increased six thousandfold in value since Collins Street, the High Street of this capital, was an open waste. From the first, however, the city has been careful to preserve open spaces; and it has now in and about it over four-score parks, gardens, and other breathing-places, including the race-course and the cricket grounds, that here draw such excited crowds. Fond of amusement as they are, the Melbourne citizens have the name of being keen men of business, and the chief streets show the bustle of London or New York when filled with crowds hurrying by trams or local trains to and from their outlying residences in North Melbourne, Collingwood, Fitzroy, Richmond, and other suburbs, or to get a blow of sea air at St. Kilda or Brighton, if not farther down the bay at Sorrento or Queenscliff.

The Sydney people, who, in their softer climate, are accused of taking life more leisurely, affect to ignore the pretensions of Melbourne or to waive them aside with a hint at the proverbial rocket and stick. On the whole Melbourne is voted by strangers the more stately and Sydney the more pleasing city, the dark stone used in the former's buildings giving an effect of somewhat sombre dignity, while the latter is fortunate in the tinted sandstone of its vicinity. Sydney has been catching up Melbourne in size during the last generation; the Victorian capital, by the census of 1901, was only some couple of thousand ahead in population, both of them, as in the case of our British rivals, Glasgow and Liverpool, filling up their numbers by taking suburbs and dependencies into

In a Gippsland "Brush". (From a photograph

account. Each of these cities is now invested with the dignity of a Lord Mayor, which may be felt as great a satisfaction as the knighthoods scattered among colonial politicians. Several of Melbourne's outlying quarters take the title of city, here allowed to a municipality with a revenue of not less than £20,000, while a town must have £10,000, and a borough should count at least 300 rate-payers. Township is the most modest title, and such a name as village seems hardly known in a country where every Jack counts himself as good as his master. We trust not to offend in giving the wrong style to any of these Antipodean communities, which usually have had the independence to choose aboriginal names for themselves instead of putting our old Yorks and Bostons in future to the blush of inferiority. Street names, indeed, are often brought from home, as in the sea-bathing suburb St. Kilda, whose Tennyson Street is crossed by others dedicated to such memories as Scott, Burns, Byron, Coleridge, &c., while an inland dependency of Melbourne affects names like Gladstone, Salisbury, and Disraeli

But for its gardens, the immediate neighbourhood of Melbourne is not so attractive as the country about Sydney; yet here too, some way behind the city, rise the slopes of the Dividing Range, presenting scenery which has been called "a mixture of the Rhine and the Black Forest", to which rich vineyards help to give a Continental air. Notable points are Mount Macedon, the "Simla" of Victoria; Bacchus Marsh, whose lush greenery belies its name; and Fernshaw, to which strangers are drawn by what seem the tallest Australian gum-trees, their shafts rising "like the columns of some early English cathedral" from an undergrowth of tree-ferns, themselves as high as our notion of a tree. The richness of this district comes largely from ancient lava-beds that out of craters and cracks have overflowed many parts of the colony with a desolation turning after ages to fresh fertility. Here, as elsewhere, all the fine features of mountain and valley have to the instructed eye their tale to tell of bygone catastrophe or epoch-long moulding.[1] Among the lions of the colony are its crater lakes, as that of Tower Hill on the coast at the west end. The mountains and lagoons of Gippsland also are much visited by tourists.

Most of Victoria's cities are agglomerated to the capital, that has sucked the life out of other ports. Geelong, near the mouth of the bay, which at one time aspired to be the metropolis, has suffered from sandy obstruction of its harbour, and owes its rank as a town mainly to woollen mills and other manufactures. Some other ports on the open sea do not rank even as towns, and the railways led down to them cannot galvanize them into prosperity. The most important one on the west coast is Warrnambool, 170 miles from Melbourne, which has over 6000 inhabitants.

The second city of the colony is Ballarat, which, with over 40,000 people, ranks itself the greatest inland city of Australia. This owes its rise to the fevered days of the gold rush; and still its lion is the Star of the East mine, sunk 2000 feet, then branching out in long tunnels through the gold-bearing earth; but it now lives in large part more soberly upon foundries, breweries, flour-mills, woollen and other factories. Another of its sights is a monument to the democratic spirit of the country, commemorating a fight between the authorities and the miners, whose leader, Peter Lalor, afterwards rose to be Speaker of the Assembly. Ballarat is notably adorned with statues presented by liberal citizens. It has a very fine botanical garden, beside a lake covering 600 acres; and while the chief thoroughfare, Sturt Street, is a tree-shaded boulevard twice as broad as Dublin's famous Sackville Street, *alias* O'Connell Street, most of the houses are

[1] Dr. J. E. Taylor (*Our Island Continent*) hints what a geologist can see in the Grampian Mountains of Victoria. "A week or two after I was there I saw a picture by Guerard of a view in the Grampians. It was a magnificent picture, in which the artist had caught the genius of Australian landscape—namely, its vastness. In this picture, gum-tree-clad mountain-slope succeeds mountain-slope -river-like silver threads meander deep down through defiles suggestive of primaeval darkness, gloom, and danger, where foot of white man may never have yet trod. . . . But the shapes of these Grampian Hills! How old they look! What thousands of centuries of sun-heat, frost, snow (perhaps glaciers in some as yet dimly-guessed-at geological periods), rain, hail, and wind actions they must have been subjected to! The quartz grains composing these sandstones may have been derived from the decomposition of the granites of which I spoke above. They are rounded and water-worn. They were gathered together along the floors of unknown seas, and chemical action bound them together into these solid, weather-defying masses millions of years ago! The history of the world is a history of taking down and building up, organic and inorganic; the great builder-up being the radiant energy of the sun, which also takes down as well as constructs. Its heat, falling on the exposed surfaces of sandstone rock, causes them to expand beyond the force of the cohesive attraction which has bound them together; and so grain after grain becomes detached and falls down as dust. The wind blows it away or the rain washes it away. A new surface is exposed and the same results follow. A century slips away—a thousand centuries—and the sun is still engaged in reducing a mountain to dust. The parts possessed of strongest cohesive action endure longest, stand out most distinctly and boldly from the sierra-peaks of mountain ranges, as do these of the Grampians."

roomily set in gardens so as to cover a wide space with pleasant homes as well as handsome public buildings. The story goes that a Victorian visiting Westminster Abbey was not in the least abashed by its imposing dignity. "My word," he exclaimed, "you should see the Scotch church at Ballarat!" The double city, Ballarat East and Ballarat West, stands high and healthy about 75 miles north-west of Melbourne, surrounded by forest-clad hills among which a naked surface here and there shows how it has been scarred over by the search for gold.

About 60 miles north of Ballarat is Bendigo, *alias* Sandhurst, another gold-mining city that has developed from a gathering of tents and huts into a well-

Photo. Wilson, Aberdeen

Bendigo: the chief Gold-mining Centre in Victoria

built place of over 40,000 people. It, too, has other strings to its bow besides the gold still worked here, among its industries being the making of wine, and it is proud of a rich fernery in its public gardens, as of an ornamental fountain such as Melbourne cannot show. Bendigo and Ballarat between them turned out the greater part of the early gold yield, one single nugget at the latter place weighing 175 lbs. Eaglehawk, near Bendigo, Maryborough, Castlemaine, Ararat, also in the central district, are other towns that owed at least their origin to mining, while they also have now further sources of prosperity. Hamilton, with the falls of the Wannon as its lion, is the chief place of the western interior, as is Sale of eastern Gippsland, and Stawell of the Wimmera district beyond the Grampians. Echuca, on the northern border, is a busy port of the Murray, its navigation hence connected by rail with Melbourne.

Most of these places would give an average of some 5000 people. We cannot mention all the county towns of Victoria conscious of deserving mention, or go over the thick network of railways by which they have been connected at the public expense, sometimes, it appears, to the public loss. There are

in all some three-score places with a population of a few hundreds and upwards, in which about half the people have their homes. The rest are scattered over the land, about half of it still unappropriated and only one-tenth under cultivation; but here there is not so much still to spare of land worth owning and cultivating. Victoria does a good trade in wool, meat, grain, wine, and dairy produce, besides the protected manufactures to which she seems to give attention that might be better spent on the development of her natural resources. Among the Australian colonies she has hitherto yielded the largest amount of gold, but is latterly surpassed by the rich new fields of West Australia.

SOUTH AUSTRALIA

The first thing that strikes one about this colony is the absurdity of its name, which might as well have been North Australia; and some part of Victoria has a better title to be called South Australia. Central Australia would seem the natural title for a stretch 2000 miles long by 700 broad, that runs right through the middle of the continent, much of it as yet unsettled and unexplored, much known to be thankless scrub and desert. The original settlements were on the richer lands near the south coast, where in 1836 emigrants came out directly from England, under the auspices of a company; and twenty years later the colony was independently organized under a name it soon outgrew. The date of its first foundation is marked by the capital having as godmother Queen Adelaide, who, a year later, became Queen Dowager, to be prayed for into our own time by sleepy parsons out of old prayer-books. Since then the colony has grown in size faster than in population, for the whole area of over 900,000 square miles contains but 412,000 persons, among them a notable proportion of Germans.

Most of this population has stretched out little beyond the original nucleus, so that the name of South Australia is not so far amiss; it is, indeed, the south-eastern corner that makes the most prosperous part. Here the Yorke Peninsula divides two deep inlets, for which Kangaroo Island forms a breakwater. The long Spencer Gulf has Port Augusta at its head, and Port Pirie lower down. On the Gulf of St. Vincent, at the mouth of the Torrens river, is Port Adelaide, behind which Adelaide, with its population, suburbs and all, of over 180,000, gives a somewhat misleading idea of the country for which it is metropolis. "The White City" is a strikingly handsome one, its broad streets and handsome edifices well set off by a girdle of park-lands that offer a green vista at every turn. Most of the public buildings are in the central King William Street, from which others run at right angles on the American pattern. Like the sister capitals, Adelaide has its House of Parliament, University, Museum, Public Library, rich Botanical Gardens, and churches of all denominations, so many that it has been called "City of Churches". Outside the belt of parks, a network of trams go off into the suburbs, that rise in villas and cottages upon the luxuriant slopes of Mount Lofty, a few miles behind, where from the Observatory, at a height of 2000 feet, one has a grand prospect over this wide expanse of homes and gardens. The National Park of 2000 acres, with other pleasant resorts, lie about these inland heights; and on the sea-shore, Adelaide has a Brighton of its own, near another bathing-place called Glenelg. This name, repeated in rivers both of the

north and south coast, comes from the colonial secretary, Lord Glenelg, who had nearly had the fame of christening Melbourne, as Hindmarsh, one of the suburbs of Adelaide, commemorates the first governor of South Australia.

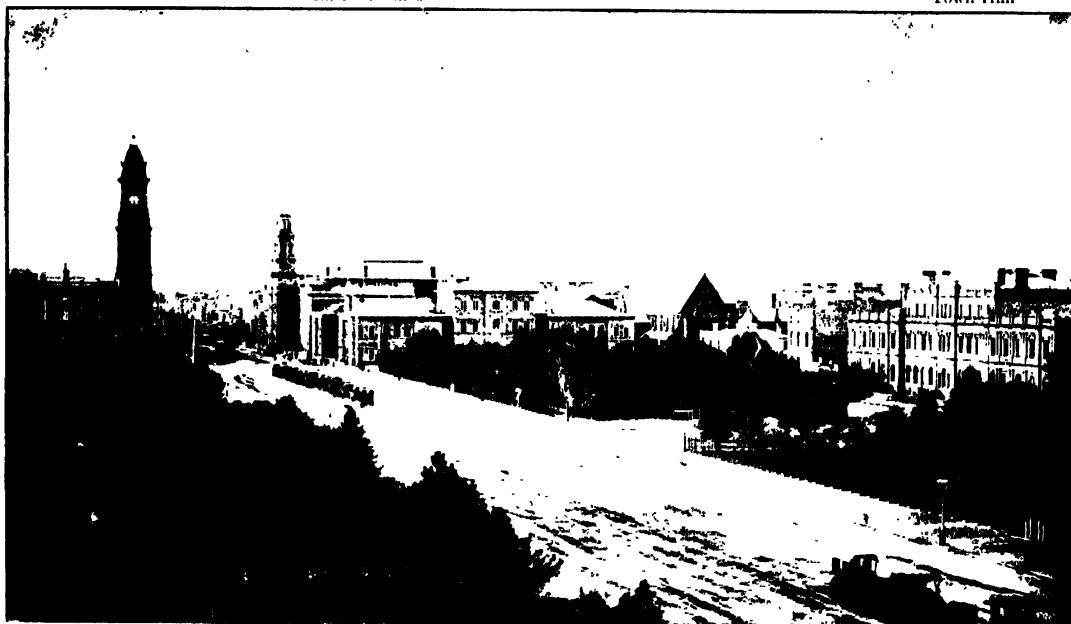
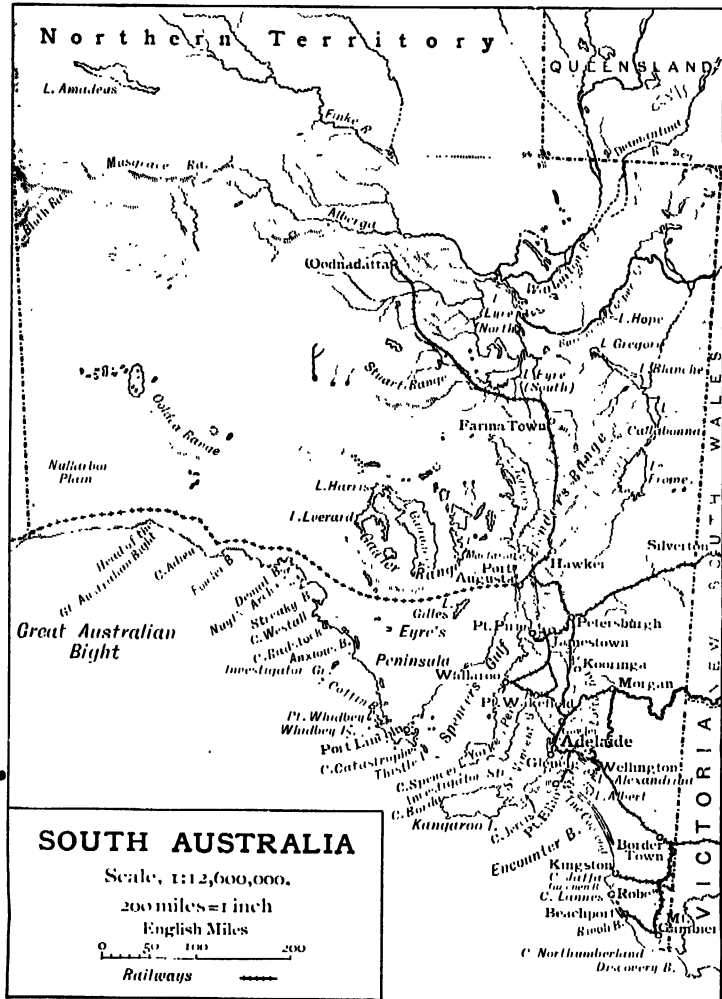
Mount Lofty makes part of a low range running northwards from the coast; and another, the Flinders Range, at one point 3000 feet, takes the same direction from the top of the Spencer Gulf. On the vast hardly settled expanse beyond the gulfs there are other scattered ranges and volcanic heights, but these send no rivers to the barren coast. The waters of the Murray and the Darling take a tortuous and sluggish course through the south-eastern nook of the colony to end somewhat ingloriously in the shallow opening of Lake Alexandrina. The rivers reaching the great gulfs are inconsiderable, the Torrens, on which Adelaide stands,

King William Street and Victoria Square, Adelaide

Photo M'Gann, Adelaide

being little better than a drain most of the year. Most of the streams here lose themselves in huge salt swamps, three of them, Lake Torrens, Lake Gairdner, and Lake Eyre, turned by rain into inland seas which it has been proposed to flood and dam. More picturesque are the smaller basins of fresh water gathered in volcanic craters, like the deep blue lake of Mount Gambier in the extreme south-eastern corner. There is room for much variety on this enormous surface, of which a geological observer declares how, "with a climate like that of the south of Spain, it possesses the scenery of the Highlands in some places, whilst in others deserts like those of Arabia, and vieing with them for bleakness, aridity, and burning heat. There are chains of salt lakes which render unprofitable a larger area than England. There are marshes and salt swamps more dank, unwholesome, and extensive than any in the United States. There are rocky precipices and chasms and waterfalls to rival almost the Alps. There are extinct volcanoes of large dimensions almost as numerous as those of Auvergne. And, finally, there are caves which exceed in magnitude the Guacharo Caves of Humboldt, or, in stalactites, the Antiparos of the Ægean Sea."

In the same latitude South Australia is hotter and more subject to drought than Victoria, so that its fortunes are very subject to vicissitude. Along with great stretches of barrenness it has some rich lands suitable both for pasture and farms. Like its neighbours it produces wool, but culture is its main interest, the dry wheat of its southern district being of superior quality; and it has lately been giving much attention to wine-making, the production almost quadrupled in a recent year. The chief mineral wealth is in copper, the mines of Burra-Burra having been here what Ballarat and Bendigo were to Victoria; but at present those of Wallaroo and Moonta, at the head of the Yorke Peninsula, are the most productive. And though the silver mines of Broken Hill lie over the border of New South Wales, their produce comes to Adelaide by a railway which its government made haste to construct while the Sydney people were still considering how to bridge over their back country. A line across the Murray joins Melbourne to Adelaide, going on far into the salt-lake region, with branches to the copper mines and other points. Ostriches from South Africa and camels from Asia have been introduced into the south of the colony.

True to its original design of providing homes for small landholders, South Australia has been trying some interesting experiments in the founding of communistic settlements on the Murray river. However these may turn out as productive new farms, for already their co-operative working seems a failure, the colony takes pride to remember that it never had anything to do with convicts. Another boast it makes is that here women were first qualified to sit as members of parliament, though as yet they have been content with voting. Its record of drunkenness, insolvency, and crime appears cleaner than that of the neighbour colonies.

In 1861 J. M. Stuart, on his third attempt, was able to cross the continent from south to north, at the same time as the Victorian expedition under Burke and Wills carried out a like achievement from Melbourne, which in their case ended tragically, most of the party dying of hunger on the way back. Stuart's more fortunate expedition was worth to the South Australian government, his employers, its claim over the whole breadth across which he showed the way. By his route the colony has the honour of having pushed the first telegraph line across the continent, that made Australia's nearest link with home. No light task was it to carry the silent wires over the scrubs and deserts of this central region, for the most part quite unfit for settlement. Yet here, too, wherever fresh water can be found, there are oases into which enterprising colonists begin to make their way, and sheep are able to thrive on the brackish water and salt vegetation of certain parts. In the middle of the country comes a boss of heights, known by the names of their discoverers, James, M'Donnell, and Stuart, and there are found running streams that invite habitation but for the difficulty of access. But in some parts the herbage has proved poisonous to sheep, and the way of the telegraph constructors was marked with the carcasses of the animals they must drive along for their subsistence. To the west of those mountains, Lake Amadeus, at one time taken for the largest of all the salt swamps, but considerably reduced by recent exploration, stretches on the edge of a still more forbidding wilderness owned by West Australia. To the north extend again naked plains, across which a line of heights and woods made a road for the explorers. Almost in the centre of the continent an extraordinary landmark appears in Chambers' Pillar, a tower-like rock standing 150 feet high upon a low eminence, about which other masses of sandstone have weathered into shapes that at a distance resemble the ruins of human handiwork: such freaks of nature are met elsewhere in Australia, telling their tale to the geologist.

A new region appears when its rivers are found flowing towards the north coast. The moist warm breath of the tropics calls forth a richer vegetation; and the eternal monotony of bush and scrub begins to be broken by pandanus and palm. Sandstone, granite, and limestone are weatherworn into fantastic shapes, rugged cliffs, and profound caverns, in contrast to the rounded outlines of softer formations in the south. In some parts the country is so broken as to seem almost impassable, but its rough edges enclose grassy uplands and plains, as yet little inhabited or even examined. There are only a few thousand people in this northern district, most of them near the coast, and not a few of them Chinese. The chief town, if town it can be called, is Palmerston, terminus of the telegraph line on Port Darwin, an excellent harbour that opens into Clarence Strait, separating the mainland from Melville Island. To the east of this, the Arnheim promontory makes one side of the Gulf of Carpentaria, the other belonging to North Queensland. On the west, part of the northern coast is taken up by a corner of West Australia. Cut off from the more settled south by such an extent of desert, on which, "when there was water, there was impenetrable scrub; where there was no scrub, there was no water; at times there was neither scrub nor water", this region was treated as an outlying dependency under the title of the Northern Territory of South Australia; but in 1911 it became taken over for administration by the Commonwealth, perhaps to form a new state, which might hope for a prosperous future of cotton-growing. And Australia is so impatient of difficulties that it asks, why not a railway as well as a telegraph line across that

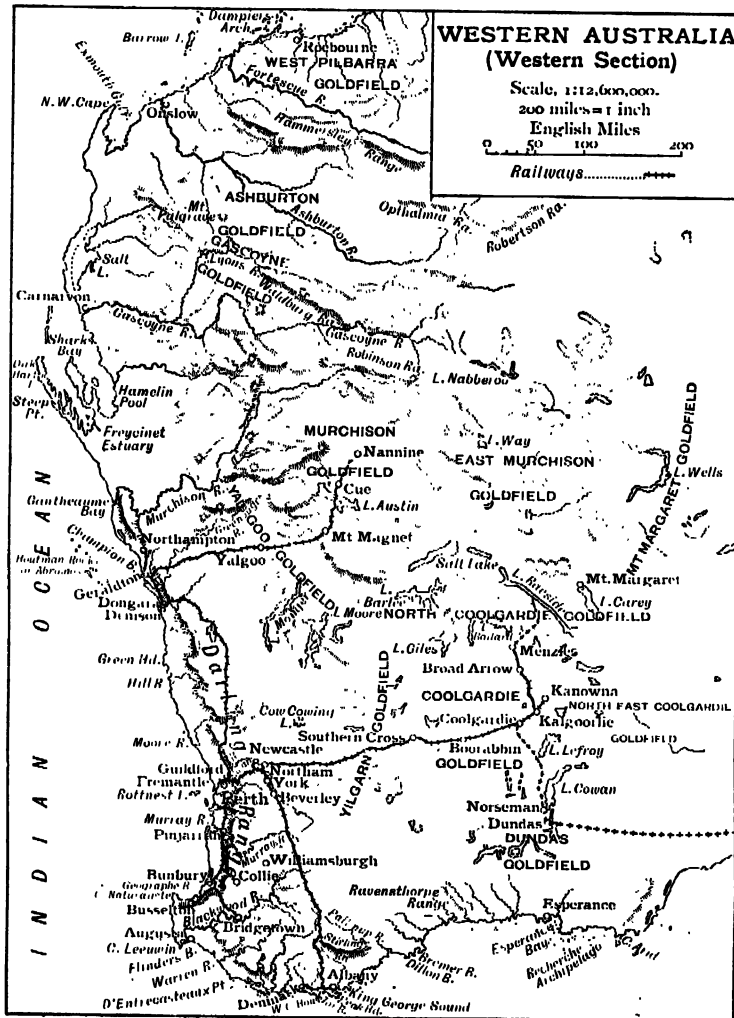
arid heart of the continent? Such a line will not fail to be made if reports turn out true of rich gold finds on its projected course. It is already sanctioned by the South Australian government, that sees here a project of taming its vast wilderness possessions, while bringing Melbourne and Adelaide several days nearer London.

WESTERN AUSTRALIA

This is the youngest of the colonial family, but the largest in size, a matter of some million square miles, 1500 miles long by 1000 broad, about one-third of the whole continent. It started as a crown colony over seventy years ago; but for long its progress was slow, and the population so thin that in the middle of the century, while its neighbours shook off the yoke of the transportation system, Western Australia opened her arms to convicts, who continued to be sent there till 1868. When in 1890 she attained her majority by becoming an independently constituted state, there were not 50,000 people in the country, among whom an oligarchy of "Seven Families" had contrived to get into their hands the cream of wealth and power. Soon afterwards she succeeded to a fortune by the discovery of rich gold-fields, and this at once gave her a new standing in the world. As in the case of her neighbours, the country had been drained of active manhood by the pull of the Victorian gold-fields. From Victoria and other colonies in turn, as from Europe, adventurers came flocking into the new field, so fast that in ten years the population of West Australia was quadrupled, being now well over 200,000.

"Westralia"—thus familiarly abbreviated, if not still more curtly W.A.-answers to its name as taking up the whole west side of the continent; but the greater part of its inhabitants have gathered in the south-west corner, the most promising and tempting quarter. The climate here is like that of Italy, with short summer heats cooled by sea-breezes, a long winter, genial on the whole, but sometimes wet and stormy on the coast, and in less danger of the alternate droughts and floods that afflict other parts of Australia. Near the sea there is a rainfall of 30 to 40 inches. In the north, and in the interior, the heat is more oppressive, sometimes most oppressive, and the rainfall often deficient. West Australia has hardly yet had time to survey all its vast territory; but most of it appears to be desert or poor land, with mountains nowhere rising above 2000 feet and river-beds only on the coast strip. Much, however, is rich in forests of valuable timber, notably the jarrah and the tall karri gum-trees, covering millions of acres with the enduring wood that comes to pave our streets. In the south-western quarter principally are found fairly good lands, where grain, fruit, and vegetables give satisfactory returns; but as yet the colony has had to import part of its food supply. Sheep and cattle are reared under the disadvantage, in many districts, of a scantiness of water and a too common occurrence of poisonous plants, which it is hoped in time to eradicate. The sinking of deep wells may possibly transform many dry stretches, where rain brings out an eruption of green, and a patch of short-lived oats may be found springing up after a teamster has watered his horses. From pastoral and agricultural pursuits enterprise was drawn off to the gold-fields, which proved the richest in Australia; now, as their yield goes down, wheat comes up. Coal as well as other minerals appear

to await exploitation, as soon as gold ceases to work its fascinating spell on new-comers. So West Australia has reason to hope for a future as great as her extent.

This colony joins South Australia on a bare, dry sandstone plateau, stretching back from the cliffs of the Great Australian Bight, where it is expressively named the Nullarbor Plain. Farther west its southern shore is fringed with the Archipelago of the Recherche, so called after the ship in which it was explored by D'Entrecasteaux while Australia still lay a prize for all the civilized world. At the most southerly point opens King George's Sound, where Albany used to give visitors their welcome or farewell to Australia, this having long been the first harbour of mail steamers from Suez, a distinction now gone to Fremantle. Albany is a small place with a great grievance common in Australia: it thinks it ought to be the capital rather than that upstart Perth, several years younger as a settlement; but it has to content itself with the best harbour of the colony, from which a railway to Perth, 300 miles, cuts across the corner ending in Cape Leeuwin, where some Dutch mariner must have imagined a lioness.

Perth, on the Swan river, seems in the way of outgrowing its godfather, that "Fair City" on the Tay, for it already counts over 40,000 people, with some 10,000 more in its suburbs, that extend for miles. It has two cathedrals, and everything handsome about it in the way of open parks and public buildings, one of them a branch of the Royal Mint. The old Perth, a capital too in its day, has of late years treated itself to a new main thoroughfare, but its young namesake's chief street, a couple of miles long, adorned with Cape lilac and mulberries, would put it to shame, even though this be hardly up to the Australian capitals' standard; and the venerable Inches of the Tay would be lost in the park of 1000 acres that

is only one of the Antipodean Perth's amenities. The environs are beautiful, the Swan river near the city making a fine opening, which its people declare equal to Sydney Harbour for picturesqueness, or to that Scottish view from Kinnoul Hill of the Tay winding through the Carse of Gowrie. Twelve miles down the river, at its mouth, stands Fremantle, this Perth's Dundee, which may be called the chief port in the colony now that the mail steamers have begun to call here, with the further ambition before it of becoming terminus of the proposed trans-continental railway. Fremantle may well lay itself out to rise in the world as future Sydney of the west, when the thousand desert miles have been spanned that now separate this colony from the highways of Australia. Its present population is about 20,000.

From Perth a railway runs eastward to the chief gold-fields. Coolgardie, 360 miles away, was the Eldorado that first came to fame here, and has grown into a place of several thousand people with as many more scattered about its neighbourhood. But in the desolate bush country through which the railway runs it passes by Southern Cross, of which little is left but the remains of hasty structures and the pretentious names given to "boomed" building lots, "Pleiades Square", "Constellation Street", and so forth, a warning to all such new towns that the tide of their fortune, swelling like the Solway, may ebb as fast. Coolgardie itself is now overshadowed by Kalgoorlie, 26 miles farther on, centre of the East Coolgardie district, in which 30,000 people are at work, the most flourishing part of West Australia outside the capital. The railway, now turning northwards, goes on 80 miles to Menzies and the North Coolgardie gold-fields, then is being pushed on another 80 miles to Murrin-Murrin, where valuable mines of copper also are worked; and to Mount Malcolm and Mount Margaret, still farther north, the iron horse will soon bring swarms of gold-seekers.

What is called the Coolgardie group of mines, dotted over 10,000 square miles, appears as yet the most valuable, a question as to which it is, indeed, not always easy to get at the truth where so much interest becomes concerned in falsehood or in sanguine over-estimates. It is a notable feature of these gold-fields that such rowdyism as was rampant in the early days of California and Ballarat soon hid its head here, the miners of all classes and nations settling down to order and civility after a short period of transition, when some mild lynch-law came in handy. Perhaps there has been less roguery on the ground than among the London speculators who have largely promoted the West Australian mines. Thanks to the capital thus brought to bear on them, their development has been remarkably rapid. Elaborate machinery is hurried up from the coast in spite of extraordinary difficulties of transport; temporary erections of canvas and corrugated iron before long give place to brick and stone; and a mining town a few years old equips itself with churches, schools, shops, hotels, but most quickly with the drinking-saloons that make a fitting temple for worshipping the local god—gold. There is some excuse for drinking in this scene of parching dust, where fresh water was sold by the gallon, a good wash proved a costly luxury, and the washing of alluvial gold had to be replaced by the process of "dry-blowing". Almost all the underground water here is thickly charged with brine, and has to be distilled by means of condensers; so that in early days a shilling or half a crown a gallon might be paid for fresh water. Natural water-holes, befouled by thirsty animals, are less common than lakes of dazzling sand or salt, or the mockery of a mirage. A fatally frequent form

of typhoid has scourged the young settlements through the want of this element that "expunges all offence of man"; but the Government has now provided remedy in an artificial water-supply, brought all the way from Perth, a very notable enterprise carried out at the cost of over two and a half millions.[1] The aridity of this country, for which a dozen inches is considered a good annual rainfall, has suggested the importation of camels, that can go without water for days, but will drink the owner's purse dry in condensed water when they get a chance. Besides these exotic cattle, whose Eastern attendants have added a strange strain to the gathering of nationalities, bicycles are much used on the

Photo. T. B. Blow

"Dry-blowing" for gold, Kalgoorlie

gold-fields, at the cost, one supposes, of some "pushing" through dust and sand.

The conveniences and conventionalities of civilized life soon make their appearance at a place like Coolgardie, which was only a few years old when it began laying out for its luckier citizens suburban villas, a little more remote from the din raised by a clank of engines, a thudding of stamps, a screeching of steam whistles, and now and then a subterranean boom of dynamite rending the precious bowels of this barren earth. But Kalgoorlie, with its miles of

[1] The Coolgardie water-works, begun in 1898 and completed in January, 1903, are perhaps the most notable of all such undertakings. The water is gathered in a reservoir among the coast ranges behind Perth, with a catchment basin of about 360,000 acres. It is pumped through more than 300 miles of 33-inch steel pipes to a reservoir of 12,000,000 gallons capacity at Bulla-Bulling, some 36 miles from Kalgoorlie, at an elevation of 1400 feet above sea-level. The pipe line is in six sections, with a pumping-station and receiving tank at each junction. From the Bulla-Bulling reservoir the water is distributed by gravitation to smaller reservoirs at Coolgardie and Kalgoorlie, from which consumers are supplied. The maximum supply is 5,000,000 gallons per day, which is far beyond the present demand. These works enable water to be supplied to the gold-fields at 6*s.* or 7*s.* per 1000 gallons.

new streets and electric trams, is the most go-ahead place of all, at present the chief centre of population in the colony, save the neighbourhood of the capital. Its prosperity seems in no danger of soon drying up, for the lodes of telluride of gold turn out richer in the deeper levels, several ounces a ton being smelted out of the ore, while nearer the surface the precious metal is often found free in the form of a brown powder, known as mustard gold.

Gold is worked in several other parts of the colony, in the teeth of the scientific experts, who here proved singularly out in their unfavourable forecasts. To the north-west of the Coolgardie region are the Murchison gold-fields, their capital, Cue, connected with the coast by a railway; this district has the advantage of a better water supply, which enables it to breed sheep to some extent. Near the north-western bend of the coast are the Pilbarra and Ashburton diggings, from which much is hoped; and farther north the Kimberley fields were the goal of a wild rush to disappointment, but the country about them proved to be well adapted for sheep and cattle breeding. The prospects of too many mines have been temporarily obscured by rash or dishonest "booming" of them beyond their value; and the first thing the prospector must look out for is not so much gold as water.

Between Coolgardie and Kimberley lies the forbidding desert of "Spinifex and Sand", twice traversed by Mr. Carnegie with the help of camels, for whose patience, endurance, and temper this explorer has a rare good word to say. His party had to make their stages from one native well to another, perhaps a week's march apart, often found dry, or to "soaks" hidden at the foot of granite rocks, where by patient digging they might get a little water trickling out of the sand; and it was unspeakable joy when they came upon a pool in which they might bathe their scorched and dusty limbs. Now and then they were able to surprise shy families of black-fellows, whom they forced or coaxed to lead them to treasured water supplies. They had to drag the camels across the soft beds of salt lakes, edged with feathery samphire or with powdery gypsum, in which men sank knee-deep. They had to toil their prickly way through plains of the deceitful spinifex, "breast-high, looking in the distance like a field of ripe corn", relieved only here and there by a desert oak, "solemn, white, and mysterious", by top-heavy "poplars", or by clumps of bush with trailing plants, which kept the camels in food and even in drink where their stems had sucked some juice out of the ground. But worst of all was the desert of red sand waves, fifty to a hundred feet high, "so close together that in a day's march we crossed from sixty to eighty ridges, so steep that often the camels had to breast them on their knees, and so barren and often destitute of vegetation that one wonders how even camels could pick up a living, . . . ridge succeeding ridge, as if the whole country had been combed with a mammoth comb".[1] For two months they laboured across this monotonous

[1] "The difficulties of our journey were increased by the necessity of crossing the ridges almost at right angles. With almost heart-breaking regularity they kept their general trend of east by north and west by south, causing us from our northerly course to travel day after day against the grain of the country. An easterly and westerly course would have been infinitely less laborious, as in that case we could have travelled along the bottom of the trough between two ridges for a great distance before having to cross over any. The troughs and waves seem to be corrugations in the surface of greater undulations; for during a day's march or so, on reaching the top of one ridge, our view forwards was limited to the next ridge, until a certain point was reached, from which we could see in either direction; and from this point onwards the ridges sank before us for a nearly equal distance, and then again they rose, each ridge higher than the last. Words can give no conception of the ghastly desolation and hopeless dreariness of the scene which meets one's eyes from the crest of a high ridge. The barren appearance of the sand is only intensified by the few sickly and shrunken gums that are dotted over it. In the troughs occasional clumps of shrubs, or scrubs, or small trees are met with, and every-

wilderness, till it began to be broken by flat-topped or pointed hills; then at last came ravines, water-beds, grassy plains, and the telegraph line that guided the wanderers to Hall's Creek in the Kimberley settlements. The result of this bold journey was to show how worthless is the interior of the colony, where an imaginary straight line separates it from like wildernesses belonging to South Australia.

Camel Transport in Western Australia

The rest of West Australia may be called a land of possibilities. Many of its towns, at present little more than names, may in a few years have risen to fame. Every place of more than a couple of thousand inhabitants at the last census will have found mention, when we add Bunbury, a port on the south of Perth, which has some name as a local Brighton; Northam, a market-town on the railway east from the capital; and Geraldton, 200 miles above Perth, port for the Murchison gold-fields and the lead and copper mines of Northampton. Farther south by rail from Perth (150 miles), Busselton is a small seaside town that seems bound to rise rapidly, not only through its own attractions, but as starting-point for a series of magnificent stalactite caves recently opened up in the limestone hills towards Cape Leeuwin, more than one of them apparently deserving to rank among the wonders of the world. The finest as yet known is the Lake Cave, on the Margaret river, where a crystal lake, 600 feet below ground, is vaulted by a hall that seems built of marble, alabaster, and jewels, nature's own Taj

where are scattered tussocks of spinifex. True it is, though, that even this poverty-stricken plant has its uses, for it serves to bind the sand and keep the ridges, for the most part, compact. Where spinifex does not grow, for instance on the tops of the ridges, one realizes how impossible a task it would be to travel for long over banks of loose sand."—Hon. D. W. Carnegie's *Spinifex and Sand.*

Mahal; but still more marvellous recesses may await discovery in this stretch of primeval forest.

The coast northward from Geraldton, broken by capes and archipelagoes, and by the mouths of the Murchison, Gascoyne, Ashburton, and other rivers, has several small ports as yet mere villages by our standard—Carnarvon, Cossack, Broome; then come Derby, on King Sound at the mouth of the Fitzroy, in the north-west; and Wyndham, at the head of the Cambridge Gulf on the north shore, into which open the Ord and Victoria rivers, flowing from highlands still little known. At this end the colony shares certain characteristics and industries with the northern territory of Southern Australia and the tropical projection of Queensland; while its population here is in part a mongrel race, bred between the aborigines and a hodge-podge of the brown, black, and yellow immigrants whom Australia now bans as "undesirable".

QUEENSLAND

In area twice as large as the German Empire, extending in 18 degrees of latitude, with a coast-line of 2500 miles, Queensland has a notable variety of surface and capabilities, from the rich black volcanic soil of the Darling Downs to poor deserts of sandstone filling Cape York Peninsula, from the picturesque gorges of the Dividing Range to the mangrove swamps of the northern seaboard, from farms of grain and grass to dense jungles and tropical trees like the palm and pandanus. So great is the consequent diversity of interests over this expanse, that the colony has been vexed by the question of splitting itself into two, even into three states. Such fissiparism might seem premature in the case of a country that numbers as yet little over half a million inhabitants, but Queensland had only one-tenth as many when she took up her independence in 1859, having begun life as the Moreton Bay convict settlement of New South Wales. When some quarter of a century old, she felt so confident of her destinies as to annex the whole of New Guinea; and though that bold measure was cancelled by the home Government, the more modest dominion of British New Guinea was at first a sort of Queensland protectorate, now taken under the wing of the Commonwealth.

This north-eastern quarter of the continent, though subject also to droughts, has a good rainfall on the coast; and its climate, if hot, is healthy enough, save for a touch of malaria here and there in the tropical north. Even in the dry season come so heavy dews that men strip to wade through long grass that wets them to the waist. The southern region is particularly rich in cattle and sheep; and the mountains behind the coast belt have gold-mines second in productiveness only to those of West Australia. There are also vast deposits of coal and iron, and mines of silver, tin, copper, &c., in working, or available as soon as the conditions of price and transport make it profitable to work them. Opals are got in the west, and pearls in the north. But it is in the variety of its crops that Queensland has an advantage, besides owning more cattle than any other Australian state. Along with productions of more temperate climes, maize flourishes most luxuriantly, affording fodder as well as grain. Tropical fruits are grown, pine-apples, mangoes, bananas, guavas,

and others; oranges and grapes ripen earlier than in the southern colonies. The date-palm and the cocoa-nut grow here, but do not bear fruit to perfection. The Egyptian papyrus has been introduced as an experiment. Tobacco is grown in the north, where cotton may still turn out to be a profitable crop.

The special production of Queensland is the sugar-cane, which has brought about a bitter contention of interests. Hot work in sugar plantations is not easily done by white men, and the prosperity of sugar growing has depended on the labour of more enduring children of the sun. Such labour being only slightly supplied by Chinamen and other Asiatic immigrants, and the Queensland natives, the fiercest of their race, yielding little service, the planters had resort to importing Kanaka natives of the South Sea Islands to work for them under a system of temporary serfdom. This system having readily lent itself to abuses, while the example of America showed what might come of rooting a servile class in a free country, the importation of Kanakas has all along been strongly denounced, and Queensland politics have largely turned on this burning question. At one time regulated by Government interference, then prohibited altogether, then again permitted in answer to the outcry of the planters, the "labour trade" remained till our day an ugly feature of Queensland life. Now, in opposition to it, philanthropy becomes reinforced by a different sentiment. The white working-man in Australia cherishes the same short-sighted dread of cheap labour as was roused by the introduction of machinery that has produced so much wealth at home. Queensland's reluctance to accept federation was chiefly inspired by suspicion of how her "peculiar institution" might be treated; and her suspicion has been justified by the Com-

monwealth parliament's providing not only against the introduction of Kanakas in the future, but for the banishment within a fixed period even of those settled in the country, a measure which is hotly affirmed as well as denied to mean ruin for the sugar plantations, and the sugar-mills dependent on them, if not for the brown-skinned immigrants, whose own wishes were least of all taken into consideration. The repatriation of coolies has been carried out with painful results, these half-weaned savages finding life difficult for them on their native soil, where the women seem often doomed to a worse slavery of shame.

The south and earliest settled part is indeed the most thickly populated.

Sugar-Cane Plantation, Queensland (From a photograph. By permission of the Queensland Government.)

Here, behind Moreton Bay, lies the capital, Brisbane, twenty miles up its river, which has been canalized into a passage allowing large vessels to reach the wharves of the city. Brisbane, with its spreading suburbs, has now about 140,000 people, and makes a handsome city, furnished not only with a stately Parliament House and government buildings, but with cathedral, university, museum, art gallery, parks, botanic gardens, and other institutions such as befit the credit of an Australian capital. The Brisbane people assure us that their city, built on both sides of the river and partly enclosed by its bend, is second to none on the continent for beauty; and a German visitor, who may be supposed impartial, speaks of it as a charming place, "with broad and well-kept streets and pretty houses ornamented with verandas and surrounded by gardens", where palms, bananas, and bamboos help the sunny climate in giving a half-tropical aspect. The scenery around is also very taking, especially the creeks of the river, and the remarkable volcanic cones rising above the bay and its green islands.

From Brisbane a railway runs nearly 500 miles inland, through the defiles of the Dividing Range and over the Darling Downs, famous for their rich soil and for the clear air that makes this high district an Australian Engadine. By their chief place, Toowoomba, it goes on to other elevated grazing lands watered by tributaries of the Darling, and seamed by low hills. From Charleville, where copious artesian-well water supplies have been obtained, the railway turns south down the Warrego valley to Cunnamulla towards the New South Wales frontier,[1] near which Mount Lindsay stands up 5500 feet. Not to speak of its branches, this line connects with that coming up from Sydney; and on it, twenty-four miles west of the capital, stands Ipswich, the centre of the Queensland coal country, which at one time ranked second only to Brisbane.

Another main line runs north, up the alluvial coast strip, rich in crops and timber. It passes by Gympie, one of the great gold-fields of the colony; by Maryborough, a considerable port on the estuary of the Mary river, opening into the sea behind the long sandy Fraser Island; by Bundaberg, in the mouth of the Burnett river, which does an export trade in the sugar and maize of its district; and on to the little port of Gladstone, one of the would-be capitals, just below Curtis Island on the Tropic of Capricorn. Beyond this at present comes a gap, which, when bridged over, will bring the railway to Rockhampton, 380 miles from Brisbane.

Rockhampton, though nearly fifty miles up the Fitzroy river, is also a port; and with a population of 20,000 the second Queensland town, aspiring indeed to be the capital of a Central Queensland which has thought itself worthy of separate existence. Near it are the extraordinary mines of Mount Morgan, yielding an unusually pure gold, believed to have been precipitated in former ages by the waters of an extinct hot spring. Behind Rockhampton is also a prosperous pastoral district, through which the Central Railway runs westward for hundreds of miles, with branches north and south.

Above Rockhampton, for 1200 miles, the mainland looks upon a calm sea, for which the Great Barrier Reef makes a breakwater; but countless islands and shoals require cautious navigation. There is no railway along this shore; but short branches run inland from the ports of Mackay, the centre of the sugar growing, and Bowen farther up. Then comes Townsville, capital of the North Queensland that thinks it ought to come into being, from which a long line goes by Charters Towers, the great northern gold-field, on to Hughenden and Winton

[1] Mrs. Campbell Praed, who spent her girlhood here, gives pictures of the mountains on the borders of these two colonies, where rise several coast streams. "The country at their heads is wild and broken into steep ridges, gorges, and barren plateaux, where are huge gray boulders scattered haphazard, as though a company of Titans had been playing at pitch and toss, while on all sides curious upheavals and indentations speak of a before-time volcanic convulsion. The mountains are of no great elevation, but are rugged and grim, and fantastic of outline. Here and there a needle-like peak stands up sharply among rocky or eucalyptus-grown humps, and cloven hills and overhanging crags seem, at a distance, to take the most grotesque shapes. A grand, wild view is to be had at every turn, and from the shoulders of the range one may look over, as it were, a blue sea, broken by precipitous islets, its land billows stretching to the horizon." More monotonous is the bush farther inland, "mile after mile of primeval forest where perhaps foot of white man has never trod—interminable vistas where the eucalyptus-trees rear their lofty trunks, and spread forth their lanky limbs, from which the red gum oozes and hangs in fantastic pendants like crimson stalactites; ravines along the sides of which the long bladed grass grows rankly; level untimbered plains alternating with undulating tracts of pasture, here and there broken by a stony ridge, steep gully, or dried-up creek. All wild, vast, and desolate; all the same monotonous gray colouring, except where the wattle when in blossom shows patches of feathery gold, or a belt of scrub lies green, glossy, and impenetrable as Indian jungle. The solitude seems intensified by the strange sounds of reptiles, birds, and insects, and by the absence of larger creatures, of which, in the daytime, the only audible signs are the stampede of a herd of kangaroo, or the rustle of a wallabi or dingo stirring the grass as it creeps to its lair. But there are the whirring of locusts, the demoniac chuckle of the laughing jackass, the screeching of cockatoos and parrots, the hissing of the frilled lizard, and the buzzing of innumerable insects hidden under the dense undergrowth."

in the heart of the interior pastures. Cardwell, behind the fog-wrapped heights of Hinchinbrook Island, is the next port of note, which has no railway as yet; but from Cairns, 900 miles north of Brisbane, there is one that takes visitors into the grandest Queensland scenery, where the highest peak of the Bellenden Ker Range rises to 5400 feet, and the Barron river in flood-time makes a fall 300 feet wide and 700 feet deep. Farther north, Cooktown, another port with a short railway inland, commemorates the name of that great navigator who might have found more conspicuous record in Australian geography. It is at this north end that most markedly the features of Indian and Australian vegetation "dovetail into each other". Here luxuriate real tropical swamps and

Cattle Station, Queensland. (From a photograph. By permission of the Queensland Government.)

jungles, their dank recesses swarming with bloodthirsty leeches and venomous snakes, the big trunks lost in a tangle of ferns, rattans, creepers, and plants that are sometimes fearsomely beautiful, such as the giant nettle, the very stir of whose leaves sets men sneezing, and contact with them can sting horses and dogs into fatal agony. In these forests the Australian avifauna is specially rich, Queensland having some 600 species of birds, more than all Europe.

At its north end, as at the south, the Dividing Range breaks out into bolder heights than are its usual character; and here, too, it turns westward in a low ridge separating the streams of the Pacific with those lost in the interior from those flowing to the Gulf of Carpentaria. On the estuaries of this gulf are Burketown and Normanton, both small places as yet, but the latter with a railway begun towards the south. Those railways in a thinly populated country often represent not so much any great need of them, as pressure which the

voters of the district have been able to bring to bear on their legislature. But not even colonial politicians have found excuse for making a railway on the long tongue of Cape Yorke, where the wild natives are left to themselves, and openings in the jungle show pimpled with tall conical ant-hills as the most frequent signs of life.

There is nothing here so like a town as the settlement on Thursday Island, off the north end, which, as a port of call for mail steamers, has a "Grand Hotel" and a telegraph station. As the centre of the pearl and trepang fisheries of the north coast it gathers an extraordinary mixture of floating population—Europeans, Americans, aborigines, Chinese, South Sea Islanders, Africans, Malays, and Manilamen, a name here given to natives of the Philippines. The pearl-fishery of this coast is chiefly valuable through the richness of the shells, the pearls themselves being poor and few compared with those of Ceylon. The Barrier Reef is the great field for gathering trepang, picked off the rocks at low tide, an industry chiefly in the hands of the Chinese, whose countrymen make most demand for this queer luxury, though there has been some attempt to bring it into use in Australia. The catching of turtles and tortoises, of sharks and of sea-cows, the oil of both of which is valued, are other means of gaining a livelihood about the Torres Straits, with their innumerable "cays", reefs, and shoals, now swept by violent tides, but once a stretch of firm land that joined Queensland to New Guinea.

TASMANIA

Van Diemen's Land, as it was originally named by its discoverer, Tasman, in honour of the governor of the Dutch East Indies, is the smallest of the Australian colonies, but stands out among them by its peculiar features. Long ago it seems to have been joined on to the mainland, till the rushing Antarctic waters cut it off by a strait 150 miles wide. The stormy sea, which as Marcus Clarke puts it, has bitten mouthfuls out of the South Australia coast, went on gnawing this rocky island into a jagged mass of bays, promontories, peninsulas, and smaller islands, over fifty in number. At the same time its elevated surface was slowly weatherworn into gigantic wrinkles, covering the main island with mountain ridges, their highest points rising to about 5000 feet. Among these lie true Alpine lakes, and to the coast rush ever-flowing rivers fed by regular rainfall and lofty snows. The result is a beautiful alternation of cliff, hill, and valley scenery, turned to impressive grimness on the iron-bound, storm-lashed western coast, where more than one of its rocky openings has suggested the name "Hell's Gate".

Unless for too much rain and fog on this side, the climate of Tasmania is almost perfect, and it has a lower death-rate than the other colonies. The hot north winds lose their oppressiveness in passing over Bass Strait; and if the sun be strong at times, the nights are cooled by the Antarctic currents, while bracing air may always be gained on the mountain ridges never far off. With a mean temperature of 55° F., and no trying extremes, Tasmania makes a refreshing health-resort for the other colonies. Its rainfall is not large on the whole, but fairly well distributed, most parts having enough to

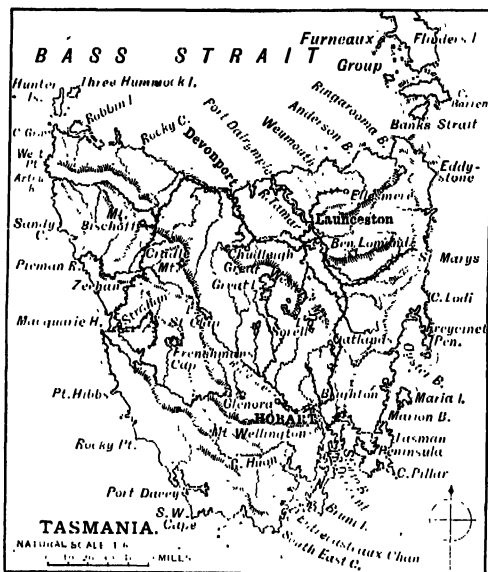
keep the soil fresh. In the centre the amount of rain seems to have fallen off since the partial clearing of the dense rank woods that in winter take a brownish tint, yet never grow bare, losing their leaves gradually as in Australia. Native productions are much like those of the mainland; but Tasmania has many species of its own, some allied to the vegetation of New Zealand; and it is particularly rich in pine forests and wild flowers. Animal life, also, resembles that of Australia, while the island has preserved two fierce creatures extinct on the mainland, the so-called "wolf" or "tiger" and the Tasmanian "devil", a short-legged, thick-set creature like a dwarf bear. Both of these

On the River Derwent, Tasmania

Photo. Beattie, Hobart

keep out of a man's way, but to flocks and farmyards they are too destructive to be long spared from the fate that has already overtaken the native inhabitants.

Their story is a sad one. Exterminated before the keener eyes of modern science could be brought to bear upon them, they are believed by Mr. Wallace to have been in some respects superior to the Australians and possibly of different origin. In this respect he differs from other ethnologists, who have been in the way of pointing the moral of civilization by putting those poor Tasmanians at the lowest end of its scale. At all events they were not able to appreciate the advantage of having white men intrude upon their lands. Misunderstandings soon rose to deadly quarrels, and for a generation went on a long tale of slaughter and reprisals, treachery and torture on either side. The government tried in vain to make friends with and to command fair play for these hunted savages, who were killed off by kindness as well as by war,

since the wearing of clothes had the usual effect upon their health, not to speak of wasting vices and infectious diseases introduced among them. At the first believed to number only a few thousands, in thirty years they had been reduced to hundreds, who still eluded capture and kept the settlements in clamour by their stealthy outrages. When thousands of armed men found themselves baffled in an attempt to sweep them off the island, a philanthropist whose name deserves to be remembered, G. A. Robinson, an uneducated bricklayer, came forward to save the remnant of the slinking bands. He had studied their character and language; he believed they could be won by persuasion; and he boldly trusted himself among them, with a few half-tame blacks as decoy-ducks, for years wandering from tribe to tribe, till at last, like a Pied Piper of Hamelin, he was able to bring them all in, trustful and submissive. In 1837, to the number of less than 300, they were settled upon Flinders Island in the northern strait. There for a time they did well under the paternal charge of their friend Robinson; but when he left, to carry out the same good work in Victoria, more careless guardians let them fall into fatal habits; and the last survivor of the race died in 1876, three-quarters of a century after their first coming in touch with Christianity.

The atrocities that here stirred such ill-blood between two races were largely due to the convicts, themselves in many cases brutalized to savagery. Their story makes the other dark spot in Tasmanian history. After it had been visited by French and other navigators, then explored by Lieutenant Flinders, for this beautiful island we could find no better use than to make a penal settlement of it. The cruel discipline of the transported prisoners has been movingly pictured in Marcus Clarke's *For the Term of his Natural Life.*[1] Some of them made good their escape, to turn reckless outlaws, who plundered the struggling colonists and worked fiendish cruelties on the natives. A much greater number, spread over the settlements as ticket-of-leave men or as convict servants, went to lower the moral standard not too high among a community familiar with the lash and the chain. Van Diemen's Land won such a bad repute that, transportation having been abolished in the middle of the century,

[1] This celebrated Australian writer is not romancing when he thus states the lot of the convicts. "Hell's Gates was the most dreaded of all these houses of bondage. The discipline at the place was so severe, and the life so terrible, that prisoners would risk all to escape from it. In one year, of eighty-five deaths there, only thirty were from natural causes; of the remaining dead, twenty-seven were drowned, eight killed accidentally, three shot by the soldiers, and twelve murdered by their comrades. In 1822, one hundred and sixty-nine men, out of one hundred and eighty-two, were punished to the extent of two thousand lashes. During the ten years of its existence, one hundred and twelve men escaped, out of whom sixty-two only were found—dead. The prisoners killed themselves to avoid living any longer, and if so fortunate as to penetrate the desert of scrub, heath, and swamp, which lay between their prison and the settled districts, preferred death to recapture." This desolate station on the west coast came to be abandoned, and the blackest circle of the inferno established at Port Arthur on the south-eastern Tasman Peninsula, which with its narrow necks and precipitous cliffs made a natural prison. On one promontory, known as Point Puer, were segregated hundreds of boys from ten to twenty years, some of whom also are said to have taken refuge in suicide.

its inhabitants were fain to wipe off their hateful past by changing the name to Tasmania, when in 1855 it became a separate colony.

This Australian Ceylon is 180 miles long by some 150 broad, with its many dependent islands making an area a little smaller than Ireland, to which it has been likened, Mr. Michael Davitt, for one, insisting on it as being, in several respects, the Emerald Isle of the Antipodes, down to its yield of excellent potatoes. It is rather a finer England, with brighter skies and more rugged surface. The people are very English in feeling, and have shown themselves more conservative than in the neighbour colonies. Most of the counties are called by such familiar names as Devon, Dorset, Pembroke, Kent, Cumberland, and so on; most of the towns and rivers, too, have been christened from memories of some British birthplace, though here and there we find a strange jumble of names, Brighton and Bagdad, Jericho and Beaconsfield, Mt. Olympus and Ben Lomond. The whole population is under 200,000. A main railway, with branches, runs through the island from south to north, connecting the two chief towns, Hobart and Launceston, as yet the only places of any size, between which also an excellent road was made in early days by the convict labour then so cheap.

Hobart, at the south end, with 35,000 people, is the capital. It has a beautiful site on the estuary of the Derwent, backed by the wooded mass of Mt. Wellington, its top often crowned by snow, looking over another height duly dubbed Mt. Nelson; then the whitish sandstone of which the houses are built helps to give the city a smart and bright aspect. "The modestest cottage", says Mark Twain, "looks combed and brushed, and has its vine, its flowers, its neat fence, its neat gate, its comely cat asleep on the window ledge." This general air of comfort is more striking than any show of pretentious architecture, the best building being the governor's mansion in the outskirts. Hobart has for its chief attractions a salubrious climate and enchanting environs, the scenery of the island being at this end well represented by the jagged points of Storm Bay, by lakes and peaks of the enclosing mountains, by the gorges of the Huon river with its gigantic pines and tree-ferns, and by the Domain Park of rising ground just outside the city.

Launceston lies at the north end, appropriately on the River Tamar, which winds and expands between wooded banks like its English namesake; and this end has more the moist warmth of the Cornish climate. Though not much over half the size of Hobart, Launceston has a busier port, and thinks itself ill-used in not being the capital, as some day it aspires to be. This also is a picturesquely pleasant town, with some grand scenery beside it, notably the Cataract Gorge of wildly broken basalt rocks, through which rushes down a river named the South Esk, compared to that beauty spot of Old England, the Lynn glens at Lynton. Launceston naturally has close intercourse with Australia, and if not a metropolis itself, it takes comfort in remembering how it was in a manner the mother of Melbourne. There was a time, indeed, when, barred from her natural markets by hostile tariffs, poor little Tasmania had half a mind to merge herself in Victoria's fortunes.

Devonport, Ulverstone, Westbury, Campbelltown, and the other Tasmanian towns are still little more than villages. Beaconsfield in the north is the chief gold-mining place; more than one part of this end gives a rich yield of tin, melted at Launceston; and Mount Zeehan on the west has silver and

copper mines of note. But for the mining settlements here, the inclement west side is thinly peopled. It is the central valleys that have been best cleared and cultivated; where, half a century ago, William Howitt saw how "all round these villages, which consist of substantial and even elegant houses, extend the richest fields, enclosed with hedges, generally of sweet brier or furze or broom, but also a good many of honest English hawthorn. There you may see cattle, sheep, pigs enormously fat, and abundance of poultry of all kinds, feeding and flourishing in their respective resorts—the meadows, the woodland slopes, or the farmyards. It is England all over." English

Photo. Beattie, Hobart

Hobart, Tasmania

trout have been naturalized in the streams, where experiments with salmon spawn did not meet with the same success.

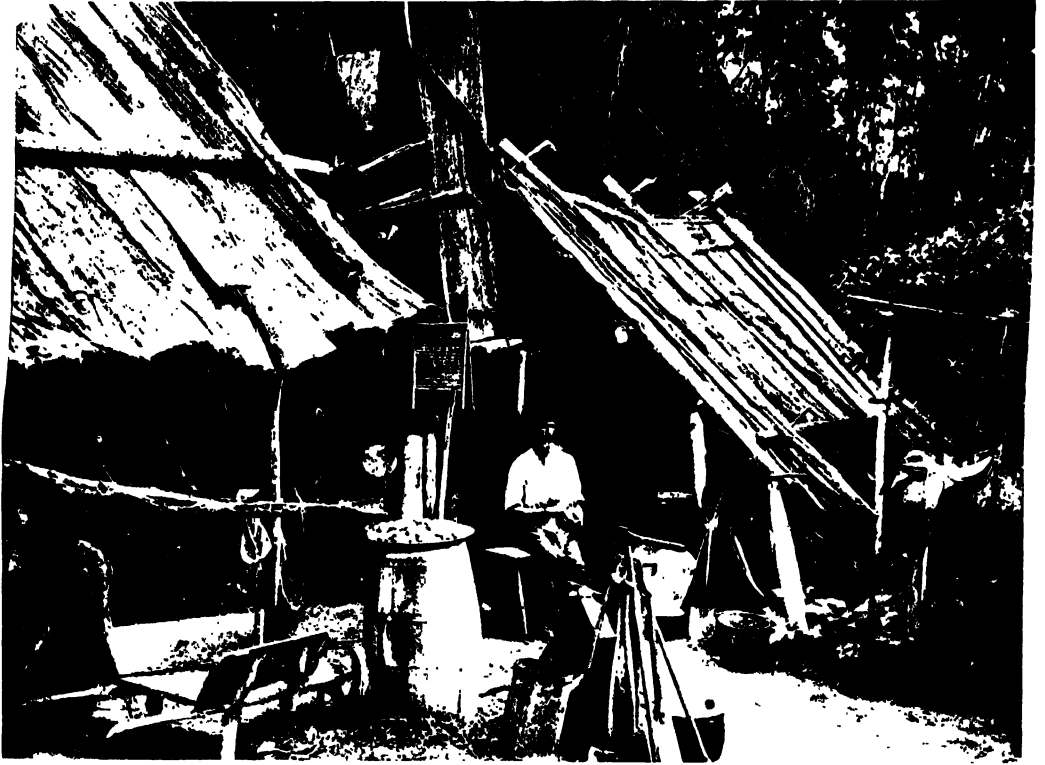
Besides wheat, oats, and potatoes, a main product of Tasmania is fruit, almost all but tropical kinds flourishing here. To the indigenous small cherries and two or three ground berries, the settlers have added so many rich orchards that two dozen sorts of fruit can be put on the table at Christmas-time. Now that the colonies no longer hinder one another's progress by hostile tariffs, Tasmania should do a good business by supplying her neighbours with jam, as she does in beer made from her hops. Copper and fruit are at present her most valuable exports, after which come wool, hides, grain, bark, cheese, &c. In tin mines Tasmania takes a lead of the neighbour colonies; and she has coal and other minerals, besides gold and silver, with plenty of timber still left in her forests, though these have been much cleared away to make room for farms. The Tasmanian axemen are so doughty, that when the heir to the crown visited

Hobart in 1901, a great log-chopping contest was held before him as representation of a national sport. With so many resources, and enjoying such an excellent climate, this Australian Cinderella may yet come to greater fortune than some of her sister states, whose general resources are now to be considered.

RESOURCES

A good half of the Australian population is settled in and about the towns, where so much is done at the public expense for comfort or amenity, and democratic tyranny has insisted on work, *quocunque modo*, being found at good wages for men who are not always ready to take a hand in developing the true resources of the country. The towns, indeed, as we have seen, are loosely spread into the country, merging with fields in long arms of suburban houses and gardens. But the typical Australian is still to be looked for in the "bush", the more or less wild country mainly turned to account for the rearing of sheep and cattle. Many parts of this are now fairly well settled, the vast "runs" broken up by farms and homesteads. In others, a man may have to go half a day's journey, or more, for a neighbourly visit, a ride of fifty miles to the nearest post-office, and twice as far for a doctor.

A settler "out back", living more or less remote from shops and roads, has to learn to shift for himself and to make the best of the new country whose life becomes his second nature. Such a life is a school of handiness and of toil, in a hardy freedom which has its attractions for active young men. The bushman had need to be active and industrious to overcome the dull monotony of his days; in the old times of unfenced sheep runs, as large as some British counties, it was not uncommon for a lonely shepherd to go mad. Men are not so often now driven to utter want of companionship; and they will seldom be beyond reach of at least newspapers to save them from degenerating into moody anchorites. The healthiness of the climate helps them to thrive through unwholesome fare and the frequent accidents brought about by their bold recklessness. Their food will often be a little varied round of salt beef, damper, flour-cake freshly baked without yeast, washed down by tea, which makes the national beverage. The indispensable furniture of the bush is a blanket, a pipe, perhaps a pannikin, anyhow a "billy" for boiling tea. The strong-stomached bushman, who has also a sweet tooth for jam, seems trying in vain to kill himself with dyspeptic stodging, with strong tea stewed as likely as not in bad water, with rank tobacco, and with fiery liquor, the last luckily not always to be come by; but when this involuntary hermit sallies forth from solitude, he is too easily tempted to make up for long abstinence. It is notorious how his well-earned holiday would take him no farther than the nearest bush-tavern, which kept specially poisonous drink for the like of him. There he would hand over the cheque that represented his year's wages, ready-money being hardly known in the bush; and with local sons of Belial to keep him in countenance at his expense, he would go on making a beast of himself till the cunning landlord pronounced the sum drunk out. This diversion of "knocking down a cheque" is said to be growing exceptional; but the bushman's "spell in town" seems still too little apt to bring him in touch with refining features of civilization.

Prudent men, of course, save up their wages, waiting a chance of starting for themselves. When out of place and out of money, the improvident fellow has nothing for it but to become a "swagman", or "sundowner", expressive name for the tramp, who, with his few belongings on his back, looking for work, or pretending to do so, makes his way from station to station. There he demands almost as a right a night's shelter and a share of what food is going, a claim honoured by Australian hospitality, which welcomes the worthy stranger, but on more frequented routes finds this general entertainment a nuisance, submitted to for fear of worse, since the unbidden guest is often the man not to stick at

Australian Bushman's Home. (From a photograph.)

arson or horse-thieving.[1] The Charity Organization Society would find special difficulties in Australia, where the large towns, by the way, need no example as to the provision of benevolent institutions.

Such sturdy beggars, indeed, frequently come riding their rounds. To trudge it on foot seems a sore come-down for the true bushman. All Australia is at home on horseback. Here it is said, as of the old Virginian planters, that a man will walk three miles to catch a horse for riding one. Even in towns, workmen are seen riding to a job, servants to market, scholars to school; and in the bush a man learns to be a centaur from boyhood. Nothing appeals more strongly to his rude sense of humour than the spectacle of a nervous "new chum", or a self-satisfied "jackeroo", shown unable to sit on some sore-backed

[1] The old class of "roustabout" is said to be dying out; and the shearers, who make their claims felt rather at the poll than by angry strikes, are much improved in character. A generally unpopular race of tramps are Asiatic pedlars, the gipsies of Australia, here oddly known as "Afghans" or "Assyrians".

buck-jumper, only half-broken in by the reckless and impatient schooling of born rough-riders. Careless grooming and clumsy saddles are answerable for many sores upon grass-fed horses; then ill-temper commonly takes the form of buck-jumping. Horses are cheap in Australia, and enduring strength is their chief virtue; like their riders, they can do a great deal of work on poor feeding. Breeding is better attended to than training, English thoroughbreds and other choice stallions being imported, and care taken to rear strains valuable for strength or speed. One of Australia's productions is the "Walers" that find a good market in India. Draught-horses are in demand nearer home, where it takes a strong team to haul heavily-laden drays through sandy bush and scrub. Race-horses, too, are carefully bred, racing being the national sport, and the Cup week of Melbourne the great annual festival, repeated, on a smaller scale, at almost all considerable towns. Australia's first poet was Adam Lindsay Gordon, whose hero is the horseman, if not the horse. In the official year-books published by the colonies, the head of *Sporting*, with gravely set-forth records and statistics, usually fills as much space as any other except *Commerce*. But if horses are the pride of this new country, its chief profit has come from wool, then from beef and mutton.

Like the sheep-dog, the horse, when called upon, develops a sympathetic and intelligent interest in the work of herding cattle; and the bush cattle are so used to seeing men on horseback, that it is said they may be startled by the sight perhaps the smell rather!—of natives on foot. It takes little to startle those shy grazers, a dozen or score thousand of which can have a hundred square miles for their pasture ground, where the stockman's monotonous yet sometimes stirring task is to follow their wilful vagaries, driving them back from neighbouring boundaries, or turning off the strangers who may have strayed from their own territory. Most exciting are the periodical "musterings", the herd "rounded up" into yards to be counted, weaned, castrated, branded, ear-marked, and generally taken stock of, or to be drafted for sale or removal to pastures new. No small courage as well as skill goes to manage the half-wild cattle thus packed together in unwonted confinement, maddened by thirst and fright. A Spanish bull-fighter's talents might come into play when, amid the bellowing of beasts and the yelling of men, an old cow charges through blinding clouds of dust, in which all the agility of man and horse may be needed to escape ugly horn wounds or heavy tramplings. But custom brings indifference to danger; and, armed with his formidable stock-whip, its use an act of long practice, the rider makes himself master of thousands of beasts, every one of which he should pride himself on knowing by sight. One of his most difficult tasks is if he turn drover, who has to bring a "mob" of cattle to market at the rate of a few miles a day, taking care for their feeding and watering on the long road, so as to deliver them in good condition, himself hardly able to close an eye at night lest some scare should send his unruly charge stampeding over strange country. This "overlanding", now to some extent superseded by railways, used to be a well-paid and much-sought-after job, giving excuse for a visit to towns in which, it has been bluntly said, these men spent like asses what they had worked for like horses.

The horses themselves, allowed to run loose in the bush, are often more hard to catch than the cattle. Sometimes they wander off and become truly wild, in which case they may be hunted together and shot by scores and hundreds,

condemned to slaughter because their evil communications corrupt the manners of the half-tame ones. The same thing often happens with cattle, that turn savage "roamers" in impenetrable wildernesses, and, where they can be tracked, give an exciting chase in a country not well off for big game. Wild swine also here and there help Australian Nimrods to sport, poorly supplied by tamer butchering of kangaroos and exterminating of rabbits. In the south, colonial squires have even imported deer for chasing, and tried to breed foxes that they might have a chance of abating that artificial pest in proper form; but the taboo that in England protects Reynard from destruction has little honour at the Anti-

Photo. Kerry, Sydney

An "Overlanding Mob"

podes. The horses make willing hunters, used to going either at a walk or a gallop, for there is little jog-trot about Australian proceedings.

The rearing of cattle has usually brought a safer if slower profit than sheep runs, which in the early days at least gave enormous though not very certain returns for a larger investment. Cattle are counted by thousands, sheep by tens or even hundreds of thousands. One stockman might look after two or three thousand cattle; but a shepherd had to go to half as many sheep till miles of country could be fenced in for enclosing the vast flocks, after which there would be little to do but let the sheep grow fat till the time came for driving them in, flock after flock, to be washed and shorn. Wool-sheds had to be built and other station offices that grew up about the squatter's home, first a "humpy" of bark, then a hut of sods or slabs, next a trim bungalow, with its creeper-covered veranda, and at last, if all went well, a roomy mansion, enclosed by flower and kitchen gardens, stores, office, yards, sheds, cottages, the whole a veritable

SCENE ON AN AUSTRALIAN SHEEP STATION

Wool is the principal product of Australia, and Australia is the greatest wool-growing country in the world. Sheep were introduced shortly before the beginning of the nineteenth century. The whole number of sheep in the colony was only 6124 in 1800. By 1851, when the rush for gold to Victoria occurred, the number had increased to about 17 millions, and to-day there are about 60 millions in all. The credit of founding Australia's great pastoral industry belongs mainly to a Captain Macarthur, who introduced many of the finest Spanish rams and ewes obtainable and improved his stock by careful crossing. The Australian wool, which is regarded as the finest produced, is softer and moie elastic than that of Spain. The plate shows a scene which is familiar over a wide region in Australia, especially in New South Wales, the chief wool state. The average number of sheep belonging to one man is now about 2400.

and yellow, so as to form a showy tartan, sometimes of bristling fibres that suggest an extended sporran. But the Polynesians have a native cloth-fabric in *tappa*, beaten out from bark or fibres to the thinness of paper. The manufacture of this is a main occupation of the women, the tap of cloth-makers' mallets being here as familiar a sound as the pounding of corn in an African village. Tappa, white and dyed in striking patterns or embroidered with richer fibres, can be produced in great rolls, used to make hangings, mats, and clothes, which are stored away in bundles wrapped within a coarse form of the same material. On state occasions chiefs will appear in showy tabards of this material; but usually

Photo, Martin, Auckland

Tappa Making (Beating)

the upper part of the body goes uncovered, unless with the ornaments of which this people are tastefully fond—garlands and tippets of leaves, bright flowers or delicate fern wreathed into their hair, coronals and breastplates of pearly shell, necklaces of gay berries, of whale's teeth, or of boar's tusks. The hair, done up in different styles of *coiffure*, is often dyed yellow or light-red with coral lime, not only for the sake of amenity, but with the practical aim of banishing vermin. Fat is rather admired as a mark of idle dignity. A plentiful use of cocoa-nut oil gives gloss and suppleness to bare skins. Where dress is at its scantiest, elaborate tattooing takes off the effect of nakedness; but in most parts this custom has almost disappeared, as in New Zealand, the dandyism of youth being easily converted from a torture which could not always be borne to the length of a complete suit. Herman Melville tells an amusing story of a Marquesas Island queen, who, visiting a French ship, saw nothing more admirable than a tattooed tar, whom she proceeded to inspect by opening his shirt and rolling up his

trousers, then by way of inviting comparison kilted her own gorgeous skirts to display the patterns with which her limbs were adorned.

For certain observers, one of the main charms of the South Seas appears to be the unreserved manners and scanty attire of their daughters, a phase that may be taken as exaggerated in travellers' tales, when we consider how, at our seaports, foreign sailors hardly become familiar with the most virtuous English women. But when all allowances are made, the morals of these dusky damsels must be pronounced free, not to say easy; and if there be a Pacific Mrs. Grundy, she keeps much in the background. They are often but too ready to display before strangers such seductive wrigglings as pass for dancing in many parts of the savage world; nor are the lively pantomimic dances, performed by both sexes, always free from offence, nor the songs in which they delight. Their notions are, in short, the antipodes of Puritanism. Yet these notions may include ideas of self-restraint, such as exceptional modesty on the part of a brother towards his sisters, dread of marriage with near kinsfolk, and the notable Samoan institution of the village virgin, whose vestal purity, jealously guarded, forms a centre of social festivity, like the May Queen of our bygone revels. Marriage relations vary, from the harem of some powerful chief to traces of polyandry in certain islands; but there appears to be a fair average of decent and happy domestic life. Infanticide, especially in the case of girls, was common in old days, it being held, at least in some parts, that a woman ought not to have more than three or four children. Children, however, are usually treated with kindness, rather lack wholesome discipline, indeed, while their parents may be careful in carrying out such approved points of physical training as flattening the nose, shaving the head, and perhaps moulding the figure by a system of massage much practised in Polynesia as in Japan. R. L. Stevenson thought that the superior physique often noticed in chiefs might be due not only to better feeding, but to diligent manipulation of the body in childhood. One extraordinary feature of family life here is the extent to which

Photo. Martin, Auckland

Samoan "Taupou", or Village Virgin

SCENE ON AN AUSTRALIAN SHEEP STATION

ing head. Still is remembered in Victoria that "Black Thursday" of its early days, when the whole colony seemed in a blaze, the population fleeing for their lives, leaving herds and flocks to a miserable fate, and the streets of Melbourne were darkened by ashes of forests burning fifty miles away. Recently, in Victoria and other colonies, after a heat-wave that for a week sent up the thermometer to 109° in the shade, there broke out a series of such conflagrations, sweeping here and there over hundreds of miles of country, destroying towns, farms, and people, roasting cattle and sheep by thousands. Some places were saved by desperate exertions of the inhabitants, beating down the flames around their homes. Else-

Photo. Kerry, Sydney

Sheep-drafting Yards

where, they preserved their lives only by plunging into creeks or dams till the deluge of fire had roared away. A railway train, caught in the burning bush, has had to dash through walls of fire, the carriages blistered and charred, the passengers scorched and half-stifled by the smoke that would carry the news of destruction over a hundred miles.

A wooded country on fire is a grand sight, but an appalling one to the owner of stock and pasture, not to speak of his home, threatened by leagues of flames that send before them a blast of scorching air, and a noise like moving thunder. Kangaroos and other shy animals come wildly rushing from the fire, too terrified to be afraid of what they meet. Flocks of screaming birds soar up from the blazing trees, only perhaps to fall stifled into the cloud of smoke, through which fiery tongues leap like lightning from one trunk to another. So fast does the conflagration travel that horses racing before it have fallen dead from heat and exhaustion. Still worse will it fare with sheep and cattle, scared out of their wits

by the glare, the heat, and the uproar of such a scene. Next day the forest is turned to a wilderness, the soil still hot with smouldering ashes, strewn with smoking trunks and branches, and the charred carcasses of animals which had not been able to make their escape. Here and there some great tree may still stand, crackling as it consumes, or falling with a sudden crash; all else is silent as death. Every living thing must have perished, unless creatures deeply burrowing into the earth, which for long will not venture to show themselves. Yet from this black ruin nature can bring fresh life; and in time the forest will spring up all the greener for its destruction by fire. Thick woods, indeed, that afford fuel for such a furnace, are not so common in Australia as tall scattered trees through which the blaze runs rapidly, singeing their trunks but unable to touch their lofty crowns.

The worst trouble in this part of the world is the droughts that come almost regularly in the hot interior, and from time to time with prolonged intensity. At the beginning of the century an unusually severe drought had prevailed over a great part of Australia for no less than seven years. These were indeed years of leanness, during which, according to one estimate, three millions of cattle and twenty millions of sheep perished miserably, figures that seem to be under the mark, for more than one colony has lost a third or almost half its flocks, New South Wales, for instance, that in 1891 had nearly 62,000,000 sheep, only counting 40,000,000 in 1900 and losing millions more in the next three years. The flocks of one owner, numbering over a million, were in a single year reduced to 20,000. Another saved 30,000 sheep only by hiring twenty special trains to carry them from New South Wales into greener pastures of Victoria. In any case, the settler has always to look for rainless months, when he is lucky if his land bears enduring salt bush or a kind of grass that can keep long without water. As the drought continues, the pastures wither up, the green plains grow brown, the trees shrivel under the heat as ours when bitten by frost, the ground cracks, and furnace blasts drive pillars of dust over a Sahara where all but the deepest streams have shrunk into a chain of mud holes. When the sheep have cropped the last blade, tearing up the roots even, and gnawing at sticks in their hunger, when they have nibbled bare every bush within reach, they perish like flies; then the owner must look on helplessly while his Alnaschar's fortune is turned to dry bone and skins. They are killed off by the torture of thirst on the top of starvation. Sheep can go long without water if only they have juicy feed; but when this fails them, they suffer pitifully, huddling up together in a stupid madness of thirst, hardly to be driven to the relief that might be found a few miles off.

There are too many parts of Australia where, in the best of seasons, men as well as beasts may have to wander for days, perhaps in vain, in search of water. And when rain does fall on this country of extremes, it is apt to be in spouts rather than showers, bringing disasters of another kind. On some corners as much rain may come down in a day as on others for a year; in Queensland, Mr. Finch-Hatton records 5 inches in an hour. The creek that in the morning was dry may at nightfall be choked by a turbid torrent, spreading out its wreck of broken timber over the parched plains. Flocks that have crept down into the empty water-courses, tempted perhaps by a little remnant of moisture in their muddy bottom, may be suddenly caught by these floods, and next day their carcasses are tossing on a swollen stream a hundred miles away. A river has

been known to rise so much in a day, that when it sank again dead horses were seen hanging high up in the trees where they had been caught by their halters. Such floods often do great mischief; but at least the rain brings new life to the earth, where even a shower sets the withered stalks turning green. The squatter counts his losses, and hopes for a better season, knowing that a few years of average weather will restock the pastures.

Photo. Kerry, Sydney

Artesian Bore, New South Wales

Depth, 1785 feet. Capacity, 3,500,000 gallons daily.

Much has been done in Australia to produce and husband this precious element. By artesian bores, sunk thousands of feet, it is often possible to bring forth gushing fountains, stored in tanks and dams, as nature can better do in shady pools overgrown by a coat of water-lilies. Windmills are brought into service as pumps. It will easily be seen how the value of a station depends upon a good supply of natural or artificial water. Other heavy expenses are in fencing, and in wages during the busy shearing season, while for three-quarters of the year the sheep can be left without much care. The profit depends not only upon the fickle climate, but on the fluctuations of the price of wool in Europe, where other producers have come into the market since Australia. Squatting, then, is not what it was in early days, even though the breeder of sheep and cattle has been successively aided by new ways of turning his meat to money. There was a time when he was glad to boil down for tallow what it was not worth his while to preserve by salting or drying. Since then he has benefited by the establishment of such industries as meat-essence extraction and tinning mutton for export, and now by the freezing processes, which enable whole carcasses to be delivered sweet and sound at the other end of the world. Sheep-farming, especially, can be

carried on best in a large way, and with more capital than was at the command of most beginners. The normal state of squatters, then, is to be in debt for advances made to them in bad seasons. Thus in most parts the large runs have passed into the hands of banks or companies, the former master being often glad to serve as manager; and the old squatter aristocracy is almost extinct. Yet Mr. James Tyson, who began life as a butcher, lately died leaving property worth millions to be disputed among his lucky relatives.

In other parts of the world, the name squatter hardly suggests an aristocrat; but it is one of Australia's topsy-turvy features that here the patrician tenant is supplanted by a plebeian owner. The squatter took up vast stretches of once useless ground, paying for them a small rent to the state. His domain came to be encroached on, or pushed farther inland, by the selector, who by purchase on easy terms, under condition of occupation and improvement, could in a few years acquire possession of smaller estates. The democratic spirit of the colonies has framed agrarian laws which, often tinkered at by the separate legislatures and their short-lived ministries, differ somewhat in detail, but in general are in favour of the poor at the expense of the rich, allowing the great runs, 50 miles or so long, to be nibbled away in homesteads and farms of a few hundred half-wild acres. The privilege of free selection was laudably designed to raise up a class like our English yeomen. The result has sometimes been the growth of one pronounced too like the "mean whites" of Virginia, among whom, if half the squatters' stories be true, cattle-stealing soon became a crime as popular as poaching in England. The selector is also accused of "picking out the eyes" of a run with a view to being bought out of his intrusion. With the most honest intentions, he may not be a very careful or experienced farmer; and the chances of making his freehold pay always depend much upon his nearness to a market, and his family capital of thews and sinews; as often as not he finds himself obliged to eke out a livelihood by spells of work for his bigger neighbour, principally at shearing-time, when labour is in demand, as during our harvest weeks. Sometimes small farms are made to pay only by several owners working in co-operation, throwing their labours into a common stock to balance the resources of the capitalist. Unfortunately there is no great love lost between these two classes; and as all the best land goes on being taken up, their clashing interests seem harder to harmonize; but perhaps this social rankling may be lived down in the open air of Australia.

Another type of Australian life is the miner, in his first phase a prospector, wandering about the country with a keen eye for its precious metals. The continent is rich in minerals, some of which, as we have seen, coal, silver, copper, lead, tin, are worked in certain parts, and in others could be worked when the market price and facility of transport gave a profit. But gold is the prize that most completely turns men's heads, so rare, so beautiful, so easily picked up—sometimes! Almost all round the continent lies a belt of gold deposits, where specks and lumps of gold can be traced on the top of quartz rocks; stones used to mend roads may be found heavy with gold; and on the surface, or a few inches below, nuggets a man could hardly lift have here and there been dug up, after lying for ages unheeded by the blackfellows as so much dirt.

This generation hardly remembers the excitement caused by the discovery of Australian gold in the middle of last century, first in New South Wales; but the first famous finds were at Ballarat, in the mountain country behind Melbourne.

Earlier discoveries in California had set men's minds agog for gold, and now the other end of the world tempted a rush of adventurers in haste to be rich. In the colonies people went mad for gold. Drawn as by a loadstone, clerks ran away from their offices, sailors from their ships, servants from their masters; farmers let their land go to waste, tradesmen shut up their shops, and flocked to the diggings to try their luck. The gold-bearing hills and valleys were quickly covered by a camp of tents and huts, where gentlemen, tradesmen, workmen, runaway convicts, white men, black men, yellow men, all sorts of men, could be seen sharing the same toils, dangers, and discomforts for the sake of gold. Victoria sucked away the scattered population of her neighbours till they, too, hit upon gold-mines of their own; then the excitement broke out afresh in other quarters, as the tide of adventure set successively towards Queensland, New Zealand, South Australia, West Australia. The miner is a creature of hope, who more than most men seldom is but "always to be blest"; and no slave ever went through greater toils and privations than many free men in the search of dazzling fortune. One has been known to walk all across Australia, 2000 miles, lured by the report of new gold diggings.

The diggers were not long in finding out that gold was seldom picked up with ease on those Tom Tiddler's grounds. Hard work was needed, and harder always as they had to go deeper for the precious metal. Nuggets lying exposed like ground bait were rare strokes of luck. At first gold might be turned up along water-courses, where its weight had sunk it among gravel and surface soil. Alluvial earth likely to be so enriched was eagerly turned over again and again, carefully washed in troughs and cradles, to the bottom of which, when the dirt and water had been cleared away, the heavy particles might have fallen. The diggers had then to burrow deeper and deeper, till a gold-field became a dismal scene of rubbish heaps and pits filled with a muddy puddle, among which patient Chinamen still went "fossicking" for what grains might be gleaned among the leavings of more eager hands. When all the stray alluvial gold was worked out, veins might be looked for in quartz reefs where nature had pocketed it ages ago, or beds of auriferous earth, hidden away out of sight beneath other formations. Soon the surface diggings grew to a mine, where the ore had to be dragged from the bowels of the earth, crushed or pounded by mechanical power and coaxed to give up its gold by cunning chemical processes, elaborated till even from the once despised "tailings" could be squeezed out a residuum of value. All this meant costly machinery and the aid of capital for the original worker, who seldom had much means to begin with, and was not often the man to store up any windfall his labour might bring him. Companies were formed in the colonies, where they helped to spread the fever of speculation. Others found their capital in the old countries, where the capitalist in turn, through his ignorance and credulity, became the slave of the promoter, whose part in the enterprise as often as not was the poetic task of giving to airy nothings a local habitation and a tempting name. Thus gold-mining made a risky business, sometimes returning rich profits, sometimes none, but as a rule paying fairly if an ounce of gold could be crushed out of a ton of rock. At the new gold-fields of West Australia, in our day of rapid communications, the financier with his engines and prospectuses has been readier to appear on ground that puts the simple digger at more disadvantage.

The original finders of gold, and their immediate followers, got little enough good of it. Some of them were fabulously lucky, but their fortune often turned

to misfortune, for they squandered or were robbed and cheated out of the riches they had won so lightly. Many lost their wits under the strain of deadly excitement; many more lost their manhood in drunkenness. Some soon gave up in despair, unable to stand the hardships of a digger's life, or wandered off to new Eldorados, again to be disappointed. Some took to bad courses, finding it hard to settle down in honest, steady industry, "a plain day's work for a plain day's wages"; the once terrible bushrangers were largely recruited from unlucky diggers, as well as from ready-made scoundrelism that swarmed about the

Photo. Wilson, Aberdeen

Alluvial Gold-Digging: the Cradle at work

diggings like flies round a carcass. Perhaps the best off in the end were those who remained to work at fixed wages, or those who left digging alone and turned their speculation to providing for the wants of open-handed adventurers where necessaries as well as luxuries found a golden price. A writer who knows Victoria well guesses that one-half of its early miners made a failure of it, that one-quarter were more or less successful, and that the remaining quarter fell into good employment on other account. This much is clear, that little of the gain stuck in the hands that toiled for it, and that more came to cunning knaves who never did a stroke of honest work in their lives. The strong things said by poets and moralists as to the demoralizing effects of gold have been too well borne out on the Australian diggings; while some hard-headed economists seriously question whether all the gold found in Australia, taking one enterprise with another, has not been gained at an actual loss. In the long run the coal of this continent, not to speak of ores hardly touched in some quarters, will doubtless prove more

profitable to the colonies than the dazzling metals they have scattered over the world. Their fits of gold-fever, indeed, have indirectly benefited them in drawing to them active inhabitants, many of whom, when they found mining no such easy road to wealth, spread out over the land, seeking slower but surer means of livelihood in development of resources that go on multiplying under the care of strong arms, sober heads, and bold hearts such as a new country needs most of all.

Another source of wealth for Australia is in her forests, the timber of which is in general hard, dense, and enduring, while several kinds—cedar, satin-wood, tulip-wood, rose-wood, &c.—have fine tints and grain, making them valuable in ornamental work. Sandal-wood, in some parts once so common as to be used for feeding engine fires, is now growing scarce. As is usual in young countries, the native forests have been wastefully dealt with; but more care is now taken of them, while useful foreign trees are brought to thrive on Australian soil. The felling and sawing of timber, both for export and home use, employs many hands; as in some parts does the providing of fire-wood. Bark, especially that of the abundant wattle, is used and exported for tanning the hides that are another branch of Australian industry. An oil distilled from eucalyptus leaves is useful in medicine and manufactures; and the resinous exudations of those gum-trees are not without value. The skins of kangaroos, opossums, and even of the too prolific rabbit, are turned to account for leather, fur, and felt, as, making the best of a bad business, the colonists can now condemn the rabbits to return in a frozen state to "the place from whence they came".

Of the various crops introduced, in some cases by way of experiment, incidental mention has been made in noticing the separate colonies. The agriculturist finds himself at a double disadvantage in the dearness of labour and the uncertainty of the climate. Most of the grain grown as yet has gone to feed the healthy appetites of the people; but some of the states have an export of wheat which they now are in a position to develop. Maize, oats, and even wheat, are often cut in a green state for fodder, supplied also by such foreign plants as lucerne, where they can stand the climate. Dairy-farming and pork-rearing are found to pay in some districts; and the wild pigs that have already become a nuisance to the settler here and there, may be hunted down and turned into bacon. Butter and cheese are exported. Oranges, apples, and many foreign fruits give a good harvest, even after they have been preyed on by flying-foxes and other winged poachers, including the pert sparrows so needlessly transported to this feeding-ground. The olive flourishes in some parts; and in several the vine has been cultivated with notable success, especially in the south, where hot suns are chequered by a touch of frost which seems wholesome for the grape. Australian wine is one of the best-known products, wanting only experience and care to take a high place even in competition with European vineyards. Much juice of unfamed grapes is sold under the name of Bordeaux or the Rhine; but the wines of Australia have too strong character to lend themselves to such disguisement. They are notably rich in blood-making properties, which have recommended them for medical use, but their rough and heady strength requires mellowing down to suit refined palates: a fault more easily amended than want of body. Australia may well expect to make much of her wine in the course of time; it would not be her least gain if this became the drink of the country instead of the fiery spirits that give the bushman's favourite besotment. Tobacco is grown chiefly by Chinamen, who bring to these colonies

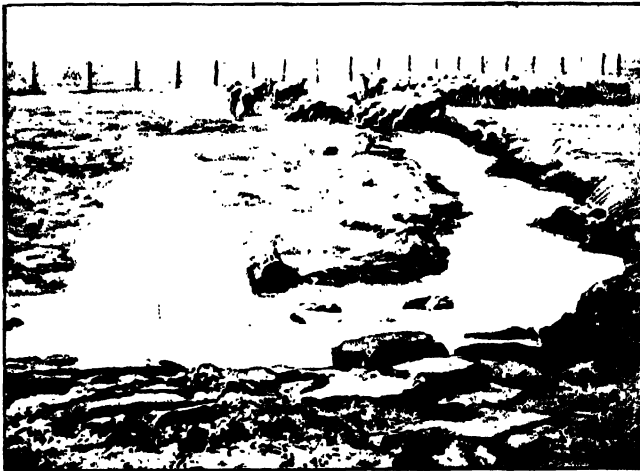
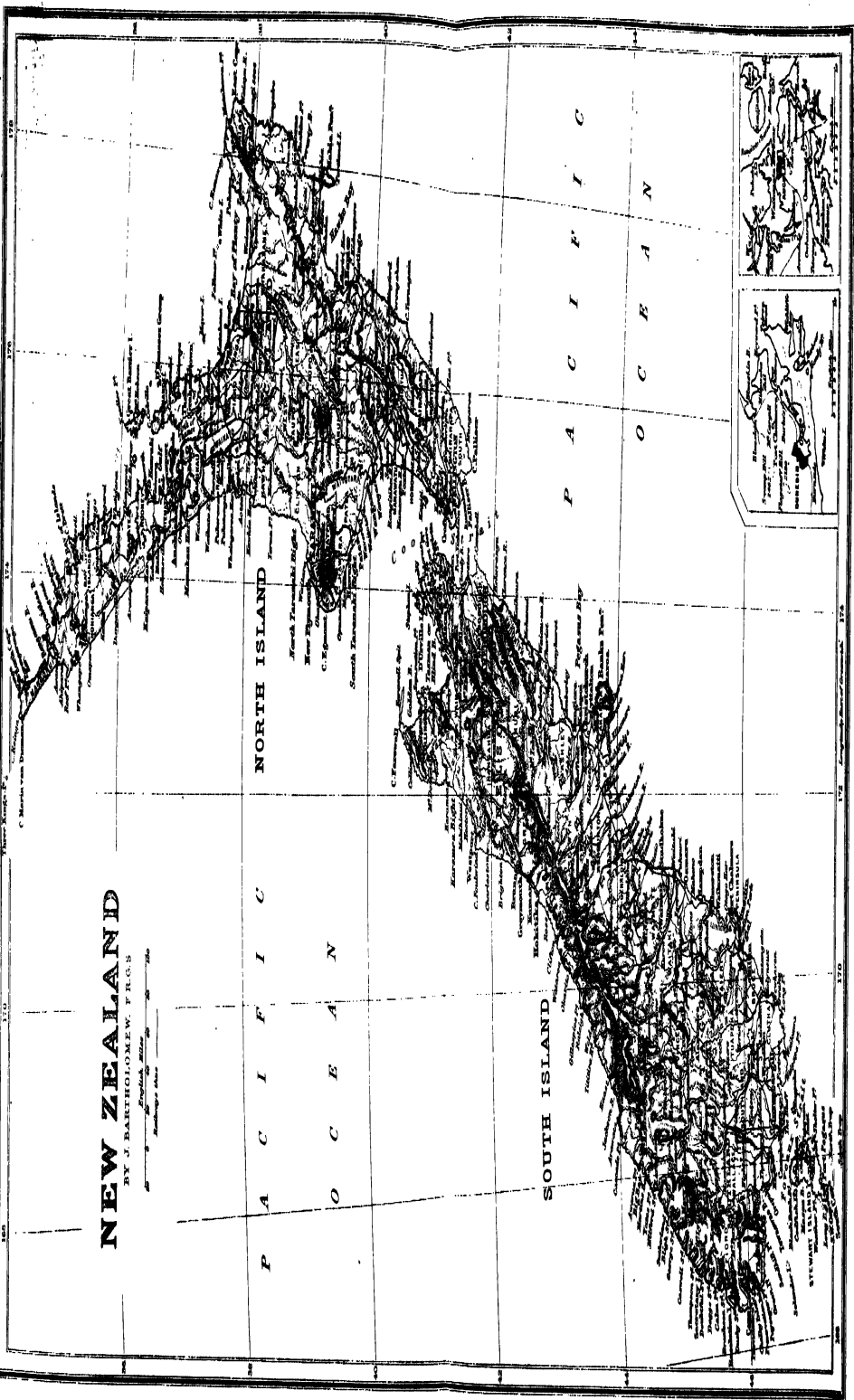
their native talent for gardening. A very exuberant growth is that of melons and pumpkins, which latter sometimes reach the weight of 100 lbs., affording a cheap and harmless adulteration for the jam Australia consumes with youthful gusto.

The prosperity of these industries, of course, depends much upon access to markets. In the settled country good roads have been laid down; in the bush, ways of travel are often rough-and-ready, requiring long teams of horses, bullocks, or in some parts camels, to haul the heavy drays on which goods are conveyed; while the settlers travel on horseback or in light buggies. But even in remote

Pine Apple Plantation, Queensland. (From a photograph. By permission of the Queensland government.)

parts there will be a more or less frequent service of coaches and mail-carts, whose drivers show a neck-or-nothing skill full of dismay for nervous travellers. Far from the roughest track run lines of telegraph wires, that strike the natives as very badly contrived fences, and have often guided lost wanderers to safety. Coast steamers still play a considerable part in distant communications. But as to railway-making, Australia has taken time by the forelock, giving bold drafts on her future prosperity to an extent that some auditors of her accounts judge rash. In the different colonies, about 12,000 miles of rail have been pushed through settled country and bush, mostly at the public cost, sometimes in private or "political" interests, in general by means of borrowed money, for which these enterprises form the chief security. The lines, as we have seen, are most thickly spread on the more populous borders of the east and south-east, sometimes branching far inland to districts where, as yet, they must be worked at a heavy loss. In the past, the different colonies were short-sighted enough to put hitches

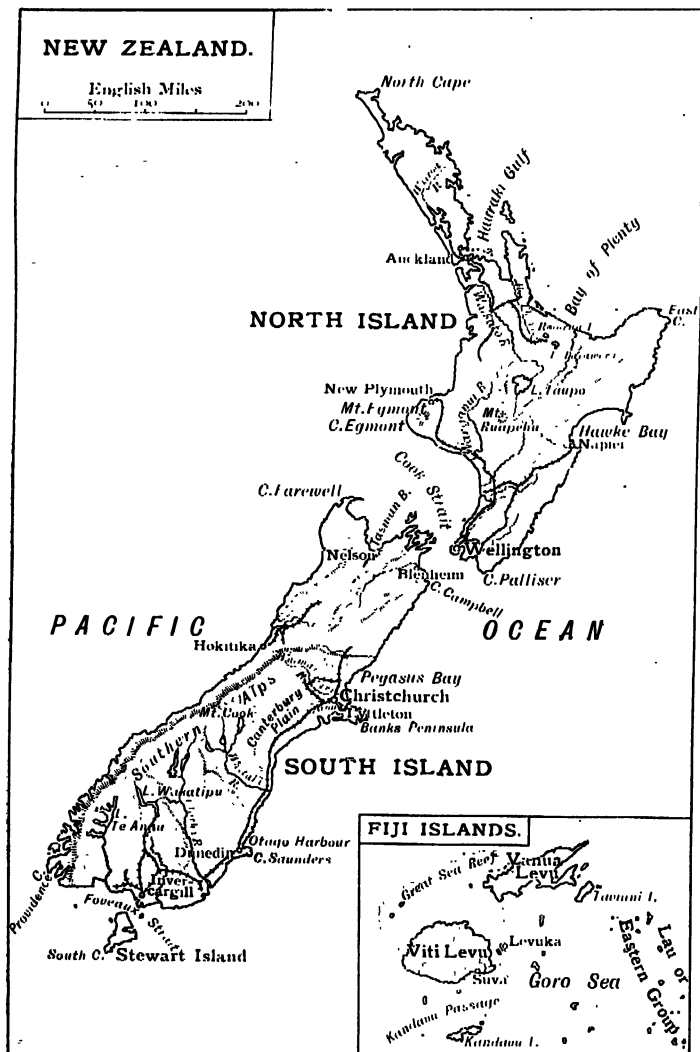
in the way of inter-communication by the varying gauges of their lines, a mistake now so clear that it is proposed to reduce them to the standard, 4 feet 8½ inches, that prevails in New South Wales, Victoria having preferred a broader and Queensland a narrower gauge. The Commonwealth is expected also to extend and interlace them, and to provide a trans-continental route along the south side so as to connect Sydney and Melbourne with Fremantle; while the South Australian government fosters the bold scheme of a line from north to south. The cost of both making and working has been usually very high, through the rate of wages kept up by Labour Unions, the price of material enhanced by protection, also sometimes through political jobbery and knavery. Thus railways have absorbed no small part of the loans that hang round the neck of the young Commonwealth, a general debt of about £250,000,000, each citizen owing more than £50 to lenders with so much stake in the welfare of a country whose motto "Advance, Australia!" seems not always borne out by the wisdom of its steps towards progress.

Not Britain's parental kindness alone prompts the question: Does the short, stirring past of Australia warrant her hopes of a great future? She herself is cocksure on this point, undue modesty and timidity being none of her weak points, nor respect for what she impatiently takes as grandmotherly advice. It is warier heads that at a distance are shaken over her light-hearted flying in the face of a "dismal science" which has much to say in public welfare. Friends and enemies watch her progress with interest, if only regarding her as a field on which, under new conditions, may be tried economic experiments that again and again have failed in older communities. *Il Penseroso* prophesies that the confident efforts of a democracy to manufacture artificial weal on credit are bound to end in bankrupt misery. *L'Allegro* prefers to believe that our sons in the Antipodes will live down troubles and mistakes to overrun a land flowing with wine and oil, rich in cattle and mines, but richest in happy homes for millions proud of what they owe to their own sturdy arms, and not less proud to remember the imperial stock of which they came.

"O, ye thirsty, water!

NEW ZEALAND

The islands so christened by Tasman in the middle of the seventeenth century have kept their Dutch name, while, like "New Holland", they have fallen to Captain Cook's countrymen, who first brought them into touch with Europe. New England or New Britain would have been fitter names, had these not been already appropriated. The names New Ulster and New Munster were at one time proposed for the two main islands; but New Zealand was the one that has stuck to the whole group, while the white inhabitants call themselves Englishmen rather than New Zealanders. This line of broken land, having in shape and position a certain resemblance to Japan, lies a few hundred miles from the Antipodes of Britain, which it approaches in size and surpasses in geniality of climate. We must bear in mind that the "Britain of the South" is an Australasian colony, but not an Australian one. Parted from the south-eastern corner of Australia by 1200 miles of deep and stormy sea, it strongly resents the propensity to look at it from our distance as an Ireland of the larger country. Jealous of its independence, and convinced of having struck out an independent line of welfare, it has chosen to hold itself apart from the Australian Federation; and its importance entitles it to be treated as a separate country, whose relations with the mother-land are much the same as those of that Commonwealth, in distinction from which New Zealand has now taken the title of a Dominion.

> "God girt her about with the surges and winds of the masterless deep,
> Whose tumult uprouses and urges quick billows to sparkle and leap:
> He filled from the life of their motion her nostrils with breath of the sea,
> And gave her afar in the ocean a citadel free."

"New Zealand's distinctive qualities", says Mr. W. P. Reeves, "are variety and romance, just as those of Australia are strangeness and a brooding sense of the vast and half-known." Having surveyed Australia, we may take it as base of comparison with New Zealand. The latter, in proportion to its size, has a greater range of climate, on the whole more favourable, with a much bolder conformation. Its narrow length is broken into irregular shape, especially at the north end, the surface rough with mountains which in the southern island rise to Alpine grandeur, and in the northern one are actively volcanic. Regular rains and perpetual snow-fields fill flowing streams, on plains free from the curse of Australia's chronic droughts. Nor is New Zealand distressed by hot blasts among the winds that play somewhat freely about its coasts. The rainfall varies, the west side, as in Britain, getting the larger share. In general the climate is temperate and salubrious, like that of a sunnier England, where, among all our colonies, the Briton most readily feels at home.

Many a traveller declares how here one might believe one's self, if not in England, in the highlands of Scotland or Ireland, so familiar seem brown sharp-edged mountains, deep-blue lakes, and rushing rivers. Anthony Trollope notes also that "the New Zealander among John Bulls is the most John-Bullish. He admits the supremacy of England to every place in the world, only he is more English than any Englishman at home. He tells you that he has the same climate — only somewhat improved; that he grows the same produce—only with somewhat heavier crops; that he has the same beautiful scenery at his doors—only somewhat grander in its nature and more diversified in its details; that he follows the same pursuits and after the same fashion—but with less of misery, less of want, and a more general participation in the gifts which God has given to the country. He reminds you that at Otago, in the south, the mean temperature is the same as at London, whereas at Auckland, in the north, he has just that improvement necessary to furnish the most perfect climate in the world." The novelist, as frankly outspoken as his mother, who once ruffled American susceptibilities, ends his report with a bit of fault-finding, now a generation old. "I must specially observe one point as to which the New Zealand colonist imitates his brethren and ancestors at home, and far surpasses his Australian rival. He is very fond of getting drunk. And I would also observe to the New Zealander generally, as I have done to other colonists, that if he would blow his trumpet somewhat less loudly, the music would gain in its effect upon the world at large." New Zealand, like most youngsters, may still be a little too fond of trumpeting; but one note of its self-approval gives forth that it no longer unduly wets its whistle. The original colonist, it is admitted, brought with him from home the national vice; but his sons in New Zealand, as in Australia, we are assured, set a much better

example, while a strict local option law expresses some consciousness of an hereditary weakness, which a strong temperance party hopes to eradicate by the help of the sober sex, that here, first on British soil, was admitted to political power.

If the people have ever been thirsty, so is not the land, on which patches of swamp and jungle replace the scrubs and deserts of Australia. About half the whole area seems to be fertile, though much of it is, and more has been, covered with the thick primeval forest, here called bush, or with the lighter growth known as scrub, both words having quite a different sense from their Australian use, by which the former denotes the characteristic open woodlands or country districts in general, and the latter a wilderness of impenetrable thickets. In New Zealand the bush is at once dense and luxuriant; and its open moors are carpeted with thick fern. Peculiarity of vegetable forms marks the ancient insulation of this country, while it has some distant relations with other lands of the southern hemisphere. That New Zealand has long had no connection with Australia is shown by the original absence of the eucalyptus and some of the acacia species so numerous in the larger continent, whence they have been introduced into these islands. The chief trees are beeches and conifers, king among them the kauri, growing to 200 feet high; then, among a dense undergrowth of creepers twining round the trunks with deadly affection, there flourish an extraordinary variety of ferns, heather-like scrub, and mosses, the former sometimes rising as fern-trees to the height of 40 feet, sometimes covering miles of hill-side with thickets of bracken, the same as is familiar on our own soil. The warmer north island cherishes the *nikau*, farthest straggler of tropical palms; the snow summits in the south shelter a bright Alpine flora. Some of the trees have a gay show of blossoms, though in general vegetation runs rather to graceful shapes of evergreen, which in the mass give a monotonously sombre effect.

One of the most beautiful trees is the *rata*, which, beginning life as a parasite seeded in the branches of another tree, throws down shoots to take independent root in the ground, then waxes so strong as to strangle the trunk that nursed it, sucking its blood into its own masses of crimson bloom, till it stands up erect in all its glory. There are several varieties of rata, varying from a shrub to a tree a hundred feet high, some flowering crimson, some white, one known as the Christmas-tree, which flourishes especially by the sea-shore of the warm north. Other common growths are the fibrous "New Zealand flax", properly a giant lily, with its sword-like leaves of glossy green more than a man's height, and tall red flowers; the ti-tree or cabbage-palm, some species of which have slender spikes of scented white flowers; the "Spaniard", also a spiky plant; and a prickly bush known as the "Wild Irishman". Ground flowers, on the whole, seem deficient both in number and colour; but there are violets and lovely ranunculi of many kinds, with magnificent shrubs and creepers, such as the unique scarlet kowhai or "parrot's bill", the yellow kowhai, a sort of laburnum, profusely growing clematis, white and yellow, and pretty climbing fuchsias. "I can give you", writes Lady Barker, "no idea of the variety among the shrubs: the koromika, like an Alpine rose, a compact ball of foliage; the lance-wood, a tall, slender stem, straight as a line, with a few long leaves at the top, turned downwards like the barb of a spear, and looking exactly like a lance stuck into the ground; the varieties of matapo, a beautiful

shrub, each leaf a study, with its delicate tracery of black veins on a yellow-green ground; the mappo, the gohi, and many others, any of which would be the glory of an English shrubbery, but they seem to require the deep shelter of their native bush, for they never flourish when transplanted. . . . The manuka, a sort of scrub, has a pretty blossom like a diminutive Michaelmas daisy, white petals and a brown centre, with a very aromatic odour; and this little flower is succeeded by a berry with the same strong smell and taste of spice."

Photo. Valentine.
Scene in New Zealand Forest, showing Kauri Pine, Palms, and Tree-Ferns

The native plants, indeed, unless found worthy to be preserved in gardens, are fast giving place to foreigners. As in Australia, English fruit-trees flourish better than at home. The hardy British gorse takes possession more than was bargained for by those who first made it serve for swelling hedges; the sweet-brier outshoots its native modesty; and even our weeds are imitating the masterfulness of the human invader. Water-cress, transplanted into New Zealand, has thriven like the American weed in our canals, to the point of one time causing floods by damming up the streams. Some of our humble wild flowers, indeed, seem hardly at home on a land that sends its finest blooms high into the air; but the new meadows are spangled with daisies and primroses; and cows stand knee-deep in clover, which had to be artificially renewed, till its busy familiar, the bee, was introduced to fertilize it. European grass-seeds gain ground upon the coarse indigenous grasses; and the richer pasture allows New Zealand a variety in its breeds of sheep, whereas Australia has to stick mainly to the hardy merino. From Australia, America, and elsewhere new plants are introduced, many of which take root here; but, as in Australia, New Zealanders begin to repent of the recklessness with which they

have cleared off their native timber, now in some parts guarded by law, as the most noble and famous scenes of the country are reserved in their natural condition for public enjoyment.

Indigenous animal life left still more room for strangers. The most formidable beasts of New Zealand are our cattle and pigs that have run wild in the woods, the latter so numerously as to have become a pest, like the rabbits which were short-sightedly turned loose here as in Australia. When Cook visited the islands the only quadrupeds he found, and these probably of recent introduction, were dogs and a kind of rat, which latter has been almost exterminated by the common brown rat that makes such a prolific colonist. We have also brought deer into the island, and hares, and filled the woods with pheasants, which touch no sore spot in the memories of New Zealand settlers. With birds of their own, however, these woods are better peopled, though not so well as those of Australia. New Zealand was once home of the wingless *Moa*, whose bones found here and there show how one species stood more than twice a man's height. This race, extinct so recently that sanguine naturalists have hoped to come on living specimens in some or other unexplored nook, is still represented by the *kiwi*, a hairy fowl without wings or tail. Almost wingless, too, is the impudent weka or wood-hen, that plays the thief and the scavenger about a traveller's camp. Another boldly pushing bird is the kea parrot,[1] which, formerly content with vegetable fare, suddenly developed a taste for mutton, and is so dainty that it prefers to peck the kidney fat from a live sheep, as the baboons of South Africa have learned to tear out milk paunches from the mothers of a flock. This cruel trick has put the kea at fell enmity with the settlers, a price set on its head; and it and the kiwi seem doomed to an extinction of which their impudent manners show them quite unconscious. There are other more harmless parrots, beautiful pigeons, many aquatic fowls, among them the black swan brought from Australia, and some songsters such as welcomed Captain Cook with "exquisite warbling". The huia, or native starling, is remarkable for its beak being straight in the male, but curved in the female bird; the "Parson-bird", so called because of tufts of white feathers on its dark plumage, has an unclerical talent for mockery; the "bell-bird" is the New Zealand nightingale. There are native bats also, and a native robin whose breast is yellow. As a matter of business, New Zealand is trying to acclimatize ostriches.

Bird-life, indeed, has suffered sorely, not only from stray cats, but from weasels and stoats, imported as allies in an unceasing war on the legions of invading rabbits, against which laws, traps, and weapons can hardly make head. The most familiar of all birds here is now the British sparrow, with

[1] "Whenever a kea makes its appearance we are prepared for some good fun, as their actions are most ludicrous, and their conversation, which is incessant, is almost expressive enough to enable one to understand what they mean. I have had considerable experience with these birds, but have never seen such an intensely funny proceeding as on this particular morning. The keas having settled on the ice began to follow in a long straggling line, about fifteen of them. They have a preternaturally solemn walk, but when in a hurry they hop along on both feet, looking very eager and very much in earnest. To see these fifteen birds hopping along behind in a string, as if their very lives depended on keeping me in sight, was ridiculously comic. The ice was undulating, with little valleys and hummocks, and the birds would now, for a second or two, disappear into a hollow and now show up on a hummock, pause a moment, and then hop down again out of sight into the next hollow. To judge by their expressions and manner, they were in a great state of anxiety on emerging from a hollow on to a hummock, as to whether I was still there. Now and then the one in front would appear, craning his neck, and on seeing me still ahead, would turn round and shriek K-e-e-a, as much as to say, 'It's all right, boys, come along!' And the others, putting their heads down, would set their teeth and travel 'all they knew', a fat one in the rear evidently making very heavy weather of it!"—A. P. Harper's *Pioneer Work in the Alps of New Zealand*.

which has multiplied our common house-fly, that does the service of evicting a native blue-bottle of more objectionable habits. At night the forests sparkle with fireflies. Mosquitoes and sand-flies are troublesome in their dry and damp haunts respectively. But for them New Zealand is almost free from venomous stings. Grasshoppers and spiders are numerous but not harmful. Butterflies and beetles seem rather scarce. There is only one frog, and that in one part of New Zealand, which might take the place of Iceland in the time-honoured story as to having no snakes. It has of its own a good many lizards, a great many creatures of the snail kind; and its waters, populated by eels, cray-fish, leeches, a kind of trout, and small fishes which the colonists accept as whitebait,

Photo. Valentine

Maori Hut ornamented with Carving

are now breeding lusty English trout. The great seas around these islands abound in fish, including the shark, counted good eating by the natives, and the whale, which has to a great extent been killed or driven off by the whalers once more frequent visitors on these coasts.

The inhabitants of New Zealand were a race not so easily supplanted as its fauna and flora. Could we go far enough back we might find it thinly peopled by some savage aborigines like those of Australia or New Guinea; but before Britain took to ruling the waves, perhaps before her own name was known to Latin authors, these islands had been invaded by Maori mariners whose descendants proved stubborn in making room for the modern conquerors. The Maoris belong to the Polynesian family, that, as will be shown farther on, are the best of the South Sea Islanders. This branch of the stock was probably an enterprising one, which, emigrating to a country not so well off for food as their native tropics, underwent the wholesome discipline of exertion in a more invigorating climate. Perhaps they came, like our Jute and Angle forefathers,

. by successive adventures and from different islands, but with the same speech. According to their own tradition, they arrived here some twenty generations ago, from a home variously identified as Samoa, Hawaii, or elsewhere. We found them a strong and often well-favoured race, warlike, but not without notion of arts and industry. Their separate clans had a well-marked social organization, with chiefs, proud of old lineage, at the top, and slaves at the bottom. Besides being hunters of scanty game they were bold navigators and skilful fishermen. They tilled the ground and lived in fortified villages of bark *wharé* huts, their temples or council chambers remarkably ornamented by carvings and paintings. They dressed in kilts and plaids of dressed flax, skins of feathers, for which on festival occasions they may still lay aside the European garments that do not become them so well. Their most notable ornament was the painfully elaborate tattooing worked on them in youth, so as to make a warrior's face and body a grimly striking picture. Their manners were courteous and ceremonious as a Red Indian's, with less of cruelty and treachery. From their ancient home they had brought with them legends, songs, and religious customs, the principal of these the taboo, by which people, things, and places were marked as *sacer*, either holy or accursed. They had half-cunning, half-crazy priests, whose incantations, oracles, and divinings appealed to superstitious awe. They practised cannibalism, but latterly, it appears, rather as a ceremonial rite of war. This was in their eyes the principal function of life, carried on incessantly with spears, clubs, slings, and stone-edged tomahawks. What fierce and formidable warriors the Maoris made we had long reason to know, when some of the clans, laying aside their own feuds, united against our encroachments. On the whole they seem to have stood at much the same level of manly barbarism as the Red Indians of early American experience. Like that ruined race, they have suffered a degenerating improvement; so that soon their old ideas and customs must be looked for in such books as Judge Maning's amusing reminiscences of a "Pakeha Maori", or "Ranolf and Amohia", that long-winded poem in which much Maori folk-lore, curiously mixed with metaphysics, has been preserved by Alfred Domett, the adventurous "Waring" renowned by a more famous poet.

Our first contact with this interesting race was through the voyages of Captain Cook, who added pigs, fowls, and potatoes to their resources. They had reason to welcome the *pakeha* (foreigner), and they soon became greedy for the iron and gunpowder that in time replaced their native weapons. For long they were best known by barbarous attacks on ships, which gave their coasts a bad name among sailors, and by reports of survivors like John Rutherford, who at English fairs made a show of the tattooing inflicted on him after a massacre, when this youth hardly hoped to save his skin. Early in last century missionaries began to venture among them, their influence counteracted by renegade white adventurers, runaway sailors and convicts, who degraded both themselves and the Maoris. A few traders settled on outlying islands, long looked on as distant dependencies of New South Wales. It was not till the French cast an eye on New Zealand that England took any steps to make good its nominal mastery. Early in Queen Victoria's reign the first band of settlers was sent out by the New Zealand Company, of which E. G. Wakefield was the moving spirit. Early in 1840 they landed where Wellington now stands, at the south end of the North Island; then on the other side of

the straits was founded Nelson. Farther to the north what may be called an official settlement was soon afterwards made at Auckland, which for some time continued to be the seat of government. Other groups of settlers quickly followed under different auspices. There were early troubles not only between the settlers and the natives, but between two classes of immigrants, those introduced by the Government chiefly from Australia, and those sent out by private enterprise in England; yet the settlements multiplied and spread, till in ten years they numbered about 30,000 people. The young colony soon came to be declared independent of New South Wales; the New Zealand Company gave up its charter in 1850; and under the first governorship of Sir George Grey, a name distinguished in more than one colonial history, a representative constitution was granted to New Zealand, its first parliament assembling in 1854.

A Maori Beauty — Photo. Iles

Progress was less checked in the larger Southern Island, where the natives were few. In the Northern Island they numbered tens of thousands, who naturally resented their displacement by the settlers, under "treaties" which, on one side, were hardly understood. After some early fights, however, the Maoris seemed reconciled to their new circumstances. Half of them became converted; not a few could speak English or read the Bible in their own tongue; many took to trading and tilling on their own account. As earnest of civilization, they gave up cannibalism and abolished their slavery. Strangers travelled freely through their remote villages. But the old grudges still smouldered and gathered head as the white man advanced upon their lands. A union of discontented tribes was formed under a native king, their Christianity to a large extent corrupted into a more congenial form of superstition known as the *Hau-hau* religion from the noisy ejaculations of its worship. In 1860 a quarrel with the land-seeking settlers broke into war, which spread over

all the middle of the island, and lasted, off and on, for ten years. We put 10,000 soldiers and sailors in the field, besides as many colonials and native allies; but this army was often baffled in a difficult country, attacking the warriors in their palisaded *pahs*, or behind skilfully-made trenches, from which they sallied out to make sudden guerrilla raids on the settlements. The enemy was believed to have numbered no more than two or three thousand at any one time. Half the clans were on our side, or at least remained quiet, not so much from love of the white man as from hatred of their rebellious neighbours. After the worst stress of this inglorious war the royal troops were withdrawn, leaving the colony to fight its own battles, as it was able to do; and at length, in 1871, peace was made with the Maoris.

Since then they have been tame enough, but at the cost of their native spirit. Except a few inveterate old heathen, they all profess Christianity of some sort, if we count as Christian the teaching of Mormon missionaries and of a native prophet, who lately set up a home-spun pattern of faith. Their tattooing has dwindled to symbolic patches like the tonsure of a monk, though still now and then a scarred and wrinkled face looks out absurdly from beneath a tall black hat. Many have taken more or less to our ways of life, especially in appreciation of property. Maoris keep stores, go into larger trade, and practise professions. But our decencies, as well as our diseases and vices, seem to sap their vitality, and in European clothes they are no longer the manly and picturesque race we found them. Once they were believed to be slowly dying out, but the late census seems to show a slight increase in their numbers, about 47,000, including 5000 half-castes. This is supposed to be little more than one-third the strength of the tribes who a century ago so vigorously fought with and devoured each other. Their rights are respected to the point of six Maori representatives sitting in the colonial parliament, where some chiefs have even held the rank of minister. On the whole, there is hardly another case of European colonists and natives coming to such a good understanding, after a struggle in which they learned mutual respect as foemen worthy of each other's steel.

In the next stage of its history New Zealand was much exercised by economic questions, such as are little like to be carefully handled by democratic constituencies. Under Sir Julius Vogel's administration was pushed a bold policy of making railways on credit, and other public works, in advance of any present need. As in Australia, the interests of the poorer voters soon came to the front, while large undertakings, unless on the part of the state, were checked by legislation; and home capitalists who had invested their money in land companies were left in painful doubt what had become of it. About twenty years ago set in a high tide of socialistic legislation, which has swept away many apparent obstructions to popular welfare without much consideration whether they were in the nature of things. Strikes, which took an exasperated form in the colonies, were abated by the Compulsory Arbitration Act of Mr. W. P. Reeves, whose recent work, *State Experiments in Australia and New Zealand*, is a defence of the novel economics by which this country believes herself to have set a good example to the burdened mother-land. Half-holidays, limited hours of work, prohibition of child-labour, a minimum wage, the restraining of competition, progressive taxation, public control of land, were enforced by the state, which hitherto has been able to provide for unemployed

labour on public works. Local industries were bolstered up by protection and bounties. Woman's suffrage was introduced for the first time in any British dominion. Old-age pensions were established. The Bank of New Zealand, when on the point of ruin, was taken under the charge of Government. The general idea of these measures was the manufacture of a co-operative community, with plenty of room for its members to make a fair living without undue strain. Many a philanthropist has failed to make good these excellent aims against the inexorable laws with which civilized man must reckon. It remains to be seen how far a state will be able to carry out the same experiment,

Photo, Martin, Auckland

Sheep Shearing, New Zealand

on borrowed money, for before setting out for her promised land of all-round welfare, New Zealand has somewhat freely spoiled the capitalist Egyptians whom she would fain leave behind her, their chariot-wheels driving heavily in the mud of "middle-class political economy", while she trusts in miracles to be wrought by working-class wisdom.

The cloud of this Utopia is an enormous debt of more than sixty millions, without counting local obligations, over £70 a head for each of the population of New Zealand. Though as yet she has fairly well carried out her ideal of moderate general comfort, it is said that some of the settlers are leaving the colony in despair; that in spite of all devices of a paternally fraternal government, there are many hands unemployed; that their cry for public work grows louder; and that to meet it the state will have to borrow still further from such capitalists of less "advanced" communities as may be disposed to go on lending. Their security is the railways and other public works, the value of which

Photo Martin, Auckland

Collecting Kauri Gum

largely depends on the general prosperity. It will be seen, then, that New Zealand plays for a high stake, with other people's money, so that it is hardly surprising if her sanguine confidence in the future be not shared by all economists, including some who have paid more attention to such questions than her self-made statesmen.

There is much in her favour. For one thing, the population is not so greatly gathered into large towns as in Australia. The climate is singularly healthy and bracing. The death-rate, about 10 in 1000, is half that of most European countries, and less than that of any Australian colony. The birth-rate has in the last generation been not so satisfactory for a country whose capital is hearty flesh and blood: as in Australia, this has markedly declined to a point that still leaves a considerable excess of births over deaths. There can be no question as to New Zealand's natural resources. Almost everything that will grow in Britain grows here better. There is plenty of fertile land bearing our chief cereals and vegetables, along with maize and rye. Oats and roots appear to be the best crops. Much more than in Australia the soil, especially in the North Island, can be sown with imported grasses that feed nine times as many sheep to the acre as do the coarse native tussocks. New Zealand, then, has more sheep than any Australian colony except New South Wales, with a good proportion of cattle, horses, and pigs. Her chief export is wool, part of the annual clip being kept at home to be used in her own clothing manufactures. Next in importance comes the export of chilled and preserved meat, chiefly mutton, but including hares, rabbits, fish, and hams; she also yields butter, cheese, and condensed milk, along with tallow and hides. She feeds with

tinned meat many South Sea islands, that supply her in return with tropical fruit. She makes her own beer, and is trying to make wine for herself, to grow tobacco, and to get her sugar from beet-root. Her most valuable native crop has been the New Zealand flax, whose strong fibre can be turned to various uses. She exports also an increasing quantity of hewn and sawn timber, of which the best is the kauri pine of the north, unfortunately growing scarce, with its amber-like gum that, dug up in a fossil state, is valuable for making fine varnish. In minerals she is rich, for among the Australasian colonies, only Victoria as yet has furnished more gold, and only New South Wales more coal. Much of the New Zealand gold has been got out of easily-worked alluvial soil; and if machinery now becomes more necessary, this colony has the advantage of Australia in the water-power afforded by her rapid rivers.

New Zealand, then, has had some reason in refusing to cast in her fortunes with the Australian Commonwealth, while in the old country's face she flaunts a defiant device *fara da se*. Her own constitution was originally a kind of Federation, modelled with an eye upon the United States, as well as on the Crown, Lords, and Commons of Britain. At one time the main islands were to be administered separately; but the scheme was almost at once abandoned. They were then divided into six, afterwards into nine provinces, each with its own local assembly, superintendent, and other officials, under the General Assembly at the capital. This provincial home rule has been replaced by county local government, though the provinces are still recognized by name, as in France; while certain districts bear popular by-names, like the "Seventy-Mile Bush" and the "Ninety-Mile Beach". The New Zealand Parliament consists of a legislative council appointed for seven years by the governor, two members being native chiefs; and of a house of representatives, seventy-four in number, four of them sitting for native constituencies, all elected for three years by universal suffrage on the "one man (and woman) one vote" principle, every adult, except aliens, lunatics, and criminals, being entitled to go on the register after a year's residence in the colony. Excluding Maoris, who are treated as equals under the law, the population (estimated as growing on to a million) is mainly of British descent, not many foreigners, unless Americans, seeking their fortunes so far; and the Chinese and other Asiatics who find their way over the Pacific receive here such a cold welcome that their scanty numbers are decreasing in these self-sufficient islands, that take upon themselves to exclude even such British new-comers as are considered "undesirable" additions to their society. Among other providers of the accursed cheap labour, New Zealand bars out the Japanese, a pretension that may some day breed trouble in the Pacific. By that time she may have a fleet of her own, let us hope, paid for out of her own pocket. Like Australia, she has already the nucleus of an army, and a volunteer force that is proud to have contributed the highest proportion of soldiers for fighting the old country's battles in a less loyal colony. There is a New Zealand university, with colleges in the chief towns; and the scattered population has strained its means to provide schooling that shall keep its children up to the level of European civilization.

Thus New Zealand makes a united and all but nominally independent British state, now comprising several groups of outlying islands to the south. The two main islands are so different in physical characteristics that it will be well to survey them separately.

THE NORTH ISLAND

The northern part of New Zealand is not a fair half in area, being a quarter or so less than the next island, but it contains a good half of the population, apart from the Maoris, who are almost all in this division. It is about 500 miles long, with a very raggedly broken coast-line, which yet does not offer many good harbours. The surface varies between plains and mountain chains, as a rule no higher than our British mountains; but there are several volcanic peaks twice as high. About them lie the hot springs and other volcanic phenomena that form the most striking features of the island, exposed to occasional earthquakes and in some parts to eruptions. This end has naturally the warmer climate, in the north equal to that of southern Europe, but tempered by a windy sea which at several points cuts deep into the land.

At one point, indeed, the island is broken into two but for the neck a few miles broad on which Auckland stands. Above this extends the deeply-indented Northern Peninsula, familiarly known as "North of Auckland", ending in a long narrow spit, of which one corner is the North Cape, and the other Cape Maria van Diemen, so called after that daughter of the Dutch East Indian governor whose bright eyes are understood to have been the beacon of Tasman's voyaging. Its east coast is a labyrinth of islands, capes, and gulfs: the Bay of Islands, where the first settlement was made by traders and missionaries; the long inlet of Whangarei Bay; then the large Hauraki Gulf, with its barrier of islands. On the western side the shore-line is straighter, but opens into inland arms of extraordinary reach. Four short bits of rail in

the peninsula point to heads of those natural harbours. The whole district is as yet a good deal given up to forests and peaceful Maori tribes; but there are some townships of a few hundred people. Russell, on the east coast Bay of Islands, a port of call for American whalers, is connected by rail with the adjacent coal-field of Kawakawa. Helensville, on the other side, is at the head of the great Kaipara inlet from which the Wairoa river gives far-spread water carriage. Hukerenui and Whangarei on the east, Dargaville and Kaihu on the west, are other pairs of settlements linked together by rail, whose trade may decline with the extinction of the kauri timber that has been the best product of the district; but when its woods are cleared away it may support cottage cultivators by fruit-growing, flower-farming, and the rearing of silk-worms, in a climate that lets strawberries ripen nearly all the year. As well as coal-mines there are hot springs here; and Waiwera, on the Hauraki Gulf, begins to be frequented as a bathing-place.

This curiously-shaped peninsula, that at more than one point seems ready to be shaken into a chain of islands, belongs to the province of Auckland, and on the narrow neck joining it to the mainland stands Auckland, no longer the capital, but still the chief city of New Zealand, with a population of 82,000, taking in its suburbs and precincts, which bear such names as Birkenhead and Devonport, Newmarket and Parnell. Auckland has been compared to Corinth for its position on an isthmus, to Quebec for its historic rank in the colony, to Sydney for its fine harbour, which some pronounce the more beautiful scene, and to Naples for its sunny aspect, the place of Vesuvius being taken by factory chimneys. It is indeed charmingly situated, and has a delightful climate, unless when damp muggy weather comes from the north-east, while the south-west wind brings clear skies and bracing air to our antipodes. It stands on the eastern side of the isthmus, its main Queen Street running down to the harbour formed by the Waitemata river at the head of the Hauraki Gulf; then a few miles off, on the other side, it has a second harbour in the deep Manukau inlet, the bar of which, however, keeps out large vessels. The city is roomily spread upon heights and winding shores, with truly Australasian open spaces and public institutions, notable among them the Auckland College of the New Zealand University, the Museum with its remains of the disappearing native life, and the Free Library and Art Gallery, containing the collection of rare books, MSS., and autographs presented by Sir George Grey, who, after his two eventful governorships, retired to the lovely seclusion of an island in the gulf: it will be remembered how Cape Town has a similar collection as relic of his rule in another colony. The Domain, a park of over 100 acres, contains a botanical garden, and a cricket-field on which a dozen matches can be played at once, some of them with so much observance that they make excuse for a public half-holiday. The love of sport is also gratified by a fine race-course a few miles out of the city, and spacious athletic "recreation-grounds" of the gate-money order; then young Auckland is much given to rowing and yachting on the waters of the harbour. The country around is studded with extinct volcanic cones, like the three-peaked island Rangitoto, and Mt. Eden at the back of the city, for which it provides a water-supply, the slopes laid out as a pleasure-ground commanding a grand view of the island-dotted gulf, bounded, sixty miles off, by the wooded ridge of Great Barrier Island. To one traveller this view suggests that from Hoy in the Orkneys, as seen under atmospheric con-

ditions more exceptional there than here. The heights that meet the eye on every side have within a century been natural strongholds for warlike Maoris, like the "camps" above our own river valleys and chalk downs; but gunpowder brought the Maoris down from their hill-castles, not a few of them to perish by making their abode in swampy lowlands; and, the rest, retiring before the settlements, have drawn together in less accessible parts of the island.

Below Auckland the province broadens out, forked into two tongues by a southern arm of the Hauraki Gulf, that is the estuary of the River Thames. The mountainous projection on the eastern side, ending with the lofty Cape

Photo Martin, Auckland

Queen Street, Auckland

Colville, is site of the Auckland gold-mines, where several other minerals also can be worked. Thames and Coromandel are mining centres, which have communication by sea with Auckland, and the former in a roundabout way by the railway which runs south up the Thames valley, then across the country to join another line from Auckland. Gold turns up in many other parts of New Zealand, and sometimes most unexpectedly. The miners are mostly Cornishmen or Irishmen, who each keep much to themselves, divided by race as well as religion; both, however, agreeing to look down on the coal-miners, many of whom came originally from Wales. The Cornishmen are specially in request for the mines where gold is crushed out of quartz reefs by means of machinery and chemical processes supplied by capital, which here has to pay high wages to its independent slaves, and can get no more work out of them than their eight hours' day. The yield is also skimmed by less elaborated alluvial digging, little knots of men generally working together in comradeship. One who works

alone is nicknamed a "hatter", perhaps as a hint of what may be the end of his misanthropy.

> "Why hatters as a rule are mad,
> I do not know, nor does it matter."

The main southern line from Auckland passes over a plain country, then up the picturesque course of the Waikato river, the longest in the colony, opening on the west coast some way below Auckland, navigable for nearly half its course of 200 miles, and above broken by grand falls. This line is to go on to Wellington eventually, but at present comes to a loose end in the centre of the island, on the edge of the wild "King Country", where the hostile Maoris were left to sulk away the resentment of their defeat. Mercer, Huntly, and Newcastle are stations on the way from Auckland. Hamilton is as yet the largest town in this interior district, and that not a large one. A short branch goes to the still smaller Cambridge, near which is a tiny Oxford. At Hamilton comes in the line from the Thames, already mentioned. This has a branch to Rotorua, towards the east side, which is also connected by road with Tauranga, a port upon a spacious lagoon to the north. Thus there is easy access to the region of volcanic lakes and springs, "The Wonderland of New Zealand", so famous that it is now included in our contemporary *Cook's Voyages*.

The volcanic district extends northwards to the sea from a central boss of craters, the highest of which, Ruapehu, over 9000 feet, is crowned by a steaming hot lake fed from melting snows; and one of its neighbour cones, Tongariro, is still fearsomely active. Here rises the Waikato, flowing through the mountain-walled Lake Taupo, the largest in the island (about 30 by 20 miles), which made a fitting haunt of Maori superstitions. For 50 miles beyond, the soil is encrusted with pumice-stone, frothed and frozen lava as it were, crumbling to sand or hardened to the green obsidian of which the natives make clubs, axes, and ornaments. Volcanic action is seldom found breaking out in so many forms over such wide space, often a desert of seething scab, on which any scratch may release nature's angry humours. Throwing a bar of soap into certain holes has the almost sure effect of stirring up a hot water-spout; but "soaping the geysers" is strictly forbidden unless on special occasions for forcing nature to show off. The ground is cracked, pimpled, and pitted by steaming geysers, smoking solfataras, fumaroles spitting mud, sponges of hot water, boiling wells closed by exuberant fern, natural washing-tubs and cooking-pots, cauldrons of "sulphurous gruel, thick and slab", simmering quagmires where one must pick one's steps with caution on peril of being scalded to death, chasms of fire and brimstone, sloughs of black, gray, and yellow mud; and amid these, crystal-edged depths filled with tinted water that seem all the more entrancing for the "black hell-broths and witches' bowls" around them. Froude exclaimed that he should never see such hues again on this side of eternity. "Not the violet, not the harebell, nearest in its tint to heaven of all nature's flowers; not turquoise, not sapphire, not the unfathomable ether itself could convey to one who had not looked on it a sense of that supernatural loveliness." The sensation of bathing in some of these springs is described as exquisite, the water giving a silky smoothness to the skin; and one gets a natural Turkish bath by passing into pools of different temperature close at hand, some scalding hot, in which the thick-skinned Maoris love to stew for hours, and some deliciously

cool, where yet one may suddenly find one's self parboiled by hot springs gushing out beneath. The air at some places is so charged with sulphurous fumes that silver soon goes black in one's pocket.

Twenty-five years ago the great sight was the pink and white terraces of Lake Rotomahana, then draining itself into the larger basin, Tarawera, compared to Loch Awe for its highland scenery. Here, like steps to a Titan's palace, rose high banks of alabaster-like rock, polished, carved, tinted, and inlaid with liquid jewellery by the overflow of geysers above, whose trickling waters coated the terraces with a siliceous deposit worked up so craftily in nature's hands; perhaps a tinge of iron ore gave the reddish tint seen in the smaller formation on one side. The process went on almost visibly. The vulgar tourist's name, cut or scrawled on this enamel, was indelibly glazed over in a year or two; a piece of newspaper dropped in the overflow soon turned stiff as starched linen; but where the rock ran dry, it lost its vivid bloom. The exhibition of such marvels brought no small gain to the native tribe that claimed to monopolize them, charging highly for their not unnecessary services as guides among so fearsome lions, and for permission to sketch or photograph. It brought evil, too, for the money easily earned was quickly spent on drink; and as visitors went on increasing, the idle Maori showmen seemed likely to be demoralized out of existence, when their Gomorrah was overwhelmed in a dramatic catastrophe. In June, 1886, with earthquake rumblings for warning, the table-shaped Tarawera Mountain, hitherto unsuspected among its neighbour cones, suddenly threw up three columns of fire and smoke, bombarding the sleeping country with showers of ashes, mud, and red-hot stones. A ruinous cloud, charged with appalling electrical effects as well as with deadly missiles, rose miles into the air, seen and heard from Auckland, 130 miles away.

Pohutu Geyser, North Island

Photo. Valentine

The effects of the eruption were spread over 5000 square miles. About the mountain 500 miles were utterly blighted, and more than a hundred lives lost. A gap 9 miles long had opened in the earth, its centre a wide crater that swallowed up Rotomahana and blasted away its terraces, either blown to pieces or buried under débris so completely that their site is now doubtful. Thus, in a few hours' fit of fury Nature destroyed her unique structure of centuries.[1]

Similar wonders are being built up again by the same mysterious agencies; and still this region, where dozens of geysers may be seen spouting within range of view, has an extraordinary show of volcanic phenomena to draw visitors from the other end of the world. It attracts invalids also in growing numbers, the hot springs having remarkable curative properties; here, indeed, the virtues of Bath, Buxton, Harrogate, Carlsbad, Vichy, Aix, and a hundred other famous spas are found crowded together for internal and external use, as is set forth by professional experts such as Dr. Moore in his account of New Zealand. The New Zealand Government, after American example in the Yellowstone Park, has undertaken to manage this spa-land as a national domain, the chief establishment being at Rotorua, beside the isolated lake of that name, 1000 feet above the sea. The Maori word *Roto* implies a lake, as *Wai* a river. Here, with all the advantages of bracing air and fine scenery, patients can wash away their misfortunes or their follies in basins filled by "tamed geysers", bearing such names as "The Blue Bath", "The Priest's Bath", "Madame Rachel's Bath", "The Pain Killer", "The Coffee Pot", "The Duchess Bath", christened by the present Princess of Wales, "The Laughing-gas Bath", and so forth. Hotels and boarding-houses have sprung up at this rail-head, now within a few hours' journey from Auckland. Te Aroha, on the Thames railway, is

[1] Several lucky travellers secured pictures and descriptions of these terraces before their disappearance. Mr. Froude's account is well known. We venture to make a tempting extract from Mr. William Senior (*Travel and Trout in the Antipodes*), who visited the scene just in time. "The front of the terraces is roughly semicircular, and it narrows towards the top. The steps vary in height and width, being sometimes inches and sometimes feet. Many of the floors are hollowed out like shells, and at the time of our visit were filled with water of exquisite blue tints. There were gray—French gray shadings on the perpendicular walls of the steps, and very surprising was the combination of white, blue, and gray. The delicacy and purity of these dazzling terrace-stairs caused us to walk with hushed tread, and respect the fretwork, carvings, fantastic stalactite designs, and endless patterns wrought by the dripping water. At the summit are large basins of hot water. Visitors, when certain winds prevail, are not able to see through the dense curtains of steam. We were fortunate, for though, as the boiling went on below, occasional clouds obscured us, at times we had glimpses of the cerulean glory of the basins. The cauldron-in-chief is a terrible affair. At first the yawning pit (it is about forty yards across) was filled with fiercely-moving steam, which buffeted the sides and escaped with a rush. Then, with a diabolical roar, which made us draw back in haste from the coralline edging, the veil was rent, and for a few moments the fury of this demon's kettle's boiling was visible. The waters surged upwards in appalling volume, madly charging right and left, suddenly, with vicious foam and thunder, upheaving as if to overwhelm us, and then as suddenly sinking out of sight, and filling the passages and caverns with dying shrieks and sighs. Space fails me to include in this description the lesser wonders of this land of mystery—the creamy mud-pools, boiling, writhing, spewing in awesome fashion; the geyser pools spouting hot water, spitting steam jets, or emitting rumbling complaints not pleasant to hear; the springs, great and small, gurgling musically like wine from the flask's throat, or bellowing hoarsely as if they would rend the solid rocks asunder. A canoe took us over the dingy green surface of Rotomahana to the Pink Terraces, so called because of the delicate tint assumed by the material of which they are formed. The pink, however, is not universal, but these terraces are softer in character, calmer, more smiling, less threatening than those we had left. The steps are broader, the hollows deeper, as if the action of the mystic hands that had fashioned them had moved gently, rounding the marble edges, levelling or more boldly scooping the marble-like floors, and hanging the artistic folds and ornaments with more leisurely grace. Instead of the raging cauldron of the White Terraces suggesting a monster shed in the bowels of the earth, in which a hundred locomotives were blowing off steam—the corresponding reservoir here was placid in appearance, though woe betide the being who plunged into its simmering depths! It was a circular pool with water so translucid that one did feel tempted to step into it. We waited a while for the steam to be wafted away, and the revelation was of a marvellous sapphire, set in pearl, and surrounded by an outer edge of canary yellow. Lovelier blue, pearl, and amber mortal eye never saw. It must have been some such heavenly vision of colour that the exile on the Isle of Patmos beheld when he looked upon the foundation walls of the New Jerusalem."

A spirited picture, too long to quote, is also to be found in Domett's *Ranolf and Amohia*.

another spa of note. In several parts of the district, as yet less sophisticated, one can undertake a picnic treatment in the fine season. The doctors, indeed, are emphatic against dabbling in such forcible remedies without due advice; but many ailing bodies, with or without the help of the waters, would be restored by a wholesome bracing up in this grand sanitorium, where:

> "Baths beauteous, statelier than of old
> Rome's silken emperors ever planned
> Of every nice degree of heat or cold,
> Are ready crystal-filled at hand".

In the Ngawhas, Whakarewarewa — Photo. Muir & Moodie, Dunedin

On either side of this mountainous centre the island expands in promontories that make its greatest breadth some 200 miles. The bulge of the east coast ending with East Cape has on its north and south sides respectively the Bay of Plenty and Poverty Bay, so named from Cook's experiences. On the latter bay stands Gisborne, a place of nearly 3000 people; but most of the promontory seems little inhabited as yet. Farther down comes Hawke Bay, which gave its name to one of the provinces, having for capital and chief port Napier, with 9000 people; and not far off Hastings flourishes in a district of rich plain country, behind which rises the Ruahine Range, a mountain wall between this province and the volcanic region. In the back country, the name Erewhon ("nowhere"), which seems little more than a name, commemorates that quaint humorist, the late Mr. Samuel Butler, who spent his early manhood in the Middle Island, and brought his experience as a sheep farmer to bear upon his highly original theory of the Odyssey's authorship; his earliest work, less well-known, is a good account of life in the colony.

On the western projection, also, the clearings make but a thin line along the coast, behind which the warlike natives till lately held possession. The chief place, New Plymouth, or Taranaki, was among the oldest settlements of the colony, and capital of its province, but even now, that its bad harbour is improved by a costly breakwater, it has not thriven beyond a population of a few thousand. It still hopes to melt wealth out of the heavy black sand edging the shore for leagues, which is mainly composed of iron; but as yet, from want of a flux or some other cause, the working of this has not been extensive. Behind the town, from a flat plain, rises Mount Egmont, one of the finest features of New Zealand, a singularly perfect cone tapering to a snow-capped point more than 8000 feet high, and sending down three-score streams to the sea. This beautiful isolated mountain, compared to the Japanese Fusiyama, is reserved as a national park, with resting-houses nearly half-way up, from which the summit can without difficulty be ascended in a few hours for a view extending over the volcanic peaks to the east, to Auckland on the north, and across the straits to the mountains of the neighbour island. Stratford in the centre of the promontory, and Hawera on its south side, are small towns, beyond which the district is bounded by the course of the Wanganui river, pronounced the most beautiful stream of the colony as it flows rapidly between precipitous walls of rock and wooded heights, but it can be ascended for 50 miles by steamer from the port at its mouth, Wanganui, now a more populous place than New Plymouth.

From New Plymouth and Wanganui a railway runs south along the west coast to Wellington, linked with another line that from Napier takes a central route through the southern promontory forming the province of Wellington. The junction is at Woodville, not far from which the name Dannevirke marks a Scandinavian settlement now counting over 2000 people. Other towns on this promontory, outside the capital, are Palmerston North, Masterton, and Petone; with Greytown, Cartertown, Fielding, Marton, Foxton, &c., which seem likely to grow, as they stand in a promising country as yet much given up to forests, the clearing of which opens upland pastures and fertile flats by the many river courses. The promontory has a western backbone, its north end known as the Ruahine Range, then south of its grand Manawatu Gorge it takes the name of Tararua, and farther down forks into two ridges enclosing Port Nicholson, the southern bay on which stands the capital. By the east coast other ranges are so thickly set that on this side there are no towns of note. Between these two highlands the course of the central railway follows a rich plain opening bv the Wairarapa valley and its lakes to Palliser Bay at the south end of the island. Outside the western range, also, is a well-settled coast strip, edging the wild country, in which may be visited many beautiful spots, such as the Papaitonga Lake with its islets sacred in Maori tradition.

Wellington, with over 60,000 people in the city and suburbs, is the oldest settlement, but only in 1865 became the capital, recommended by its central situation. This smallest of the four chief cities has to stand a good deal of chaff from its rejected rivals, who profess to belittle it as the "metropolis of match-boxes", in allusion to the original buildings being of wood, as is the case, indeed, in most parts of the island, a material dictated by danger from earthquakes, and itself involving a further risk of fires, as in Japan. Even the public buildings were of wood, the Government offices boasting itself to be the largest wooden structure in the world. Earthquakes not having been so frequent of late, the

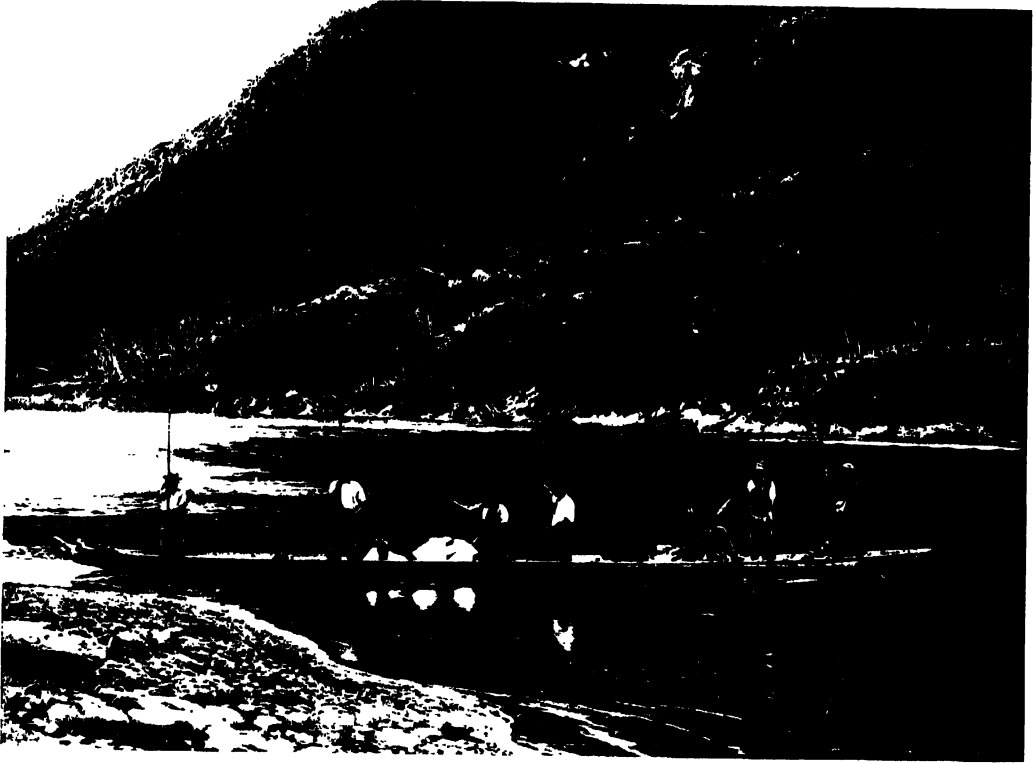
people are now taking heart to put up brick buildings. "Windy Wellington" is another nickname suggested by the climate, healthy if somewhat boisterous. The city is prettily laid out beneath low heights, on which stands the handsome Government House, and beside it the Museum, containing among other curiosities a specimen of a Maori council-house, with its carvings and decorations, such as some day must be looked for only in museums. Wellington is hardly so metropolitan-looking as Auckland, but its life is brisk enough during the Parliament

Maori Canoe, Wanganui River

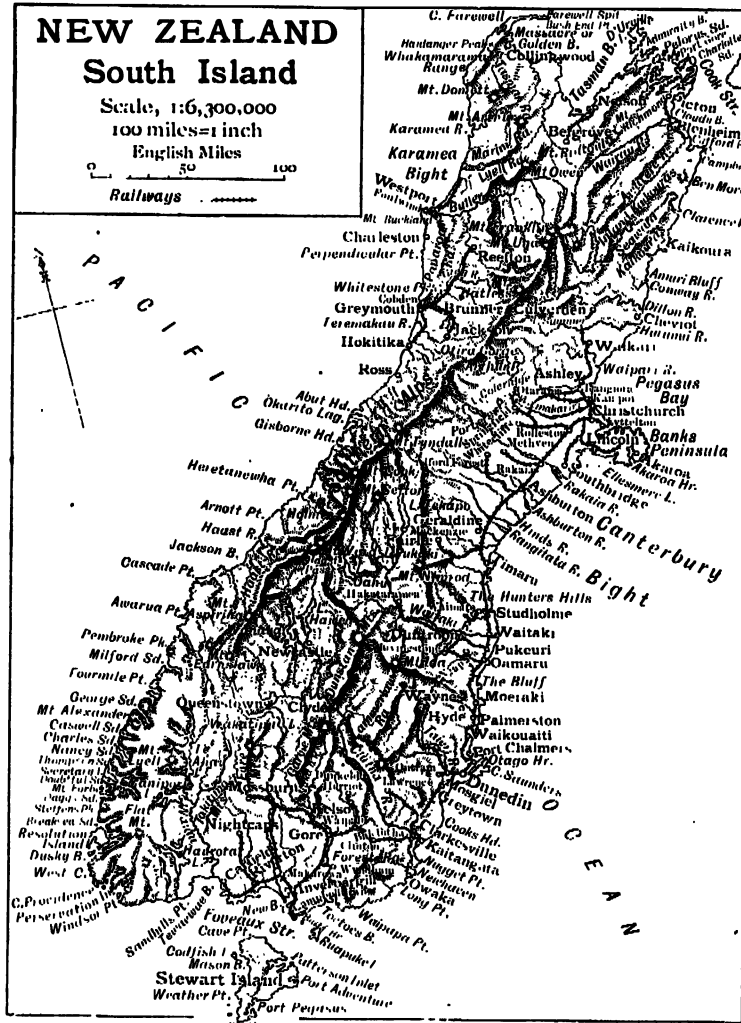
Photo Muir & Moodie, Dunedin

session in the winter months, and it has growing industries, with a stir of trade in its safe and spacious harbour, the basin formed by the Hutt river, here opening into Cook Strait, which separates the two main islands by fifteen miles of sea.

THE MIDDLE OR SOUTH ISLAND

The largest division of New Zealand is colloquially spoken of as the South Island; but its approved official title seems to be the Middle Island, which becomes less inappropriate through the annexation of outlying groups far to the south. This island is 525 miles long by 180 at its broadest, with a more compact expanse than that of its northern neighbour, from which it differs also in its cooler climate and in its Alpine backbone. At the north end the ridges straggle loosely towards the sea, or swell up in isolated points, one of which bears the name of our Snowdon but is nearly twice as high. Farther south they join

to form a lofty mountain wall, bristling with some score of peaks 10,000 feet and upwards. To the east of this lies a broad opener region inviting settlement, but the narrow coast strip on the west, watered by heavy rains, has a thick growth of virgin forests.

The ex-province of Marlborough, in the north-eastern corner, is irregularly mountainous and still well wooded, especially on its northern seaboard, which gets the largest share of rain. The chief agricultural district is the plain of the Wairau river, on which stands Blenheim, the only town of any size, with a little over 3000 people. South of this, a pastoral country stretches along the east side to run into the Canterbury province. Timber and wool are the main resources of a population whose thinness is shown by the fact that this corner has only one bit of railway, from Blenheim to its port, Picton, at the head of Queen Charlotte Sound opening towards Wellington. Picton is a small place as yet, but some day it promises to be a Torquay or Falmouth for the colony, thanks to an equable climate free from the boisterous winds that sweep the other side of the strait, while long winding sounds, deep cut into this part of the coast, diffuse a mild sea air through romantic scenes to be visited in fine weather nearly all the year round.

Gold is found in Marlborough, as in the adjacent north-western province of Nelson, which is specially rich in good coal. Its chief town, Nelson (7000), stands upon the Tasman Bay of Cook Strait, in a fertile district which, with a fine climate, rivals Tasmania in the cultivation of fruit and hops. In summer it may be too hot here, but lofty mountains behind offer refreshing retreats. The little city itself, charmingly situated among hills running down to the sea, has with its scattered creeper-clad wooden houses the aspect of a Swiss resort.

It is reproached by its neighbours with being a "Sleepy Hollow", perhaps because its young amenities have tempted Anglo-Indians and other well-to-do idlers to this place of retirement; but its natural harbour does a fair amount of trade, and it has a railway running some way inland. There are no other large towns in the province, that finds little room for agriculture among its grand mountain gorges. On the west side, Westport is the chief harbour, connected by rail with the coal-mines to the north. To the south Reefton, the gold-mining centre, has its railway connection with Greymouth in the next province, Westland.

Westland is a wet woody strip of 250 miles pent in between the mountains and the sea, chiefly depending on its gold and coal. But for miners it would have few inhabitants beyond a remnant of the Maoris who once occupied this district; and the yield of gold has been falling off, though sometimes a storm washes a windfall of gold-bearing sand above high-water mark. Greymouth, a place of 4000 people, is the chief port, connected by rail with Hokitika to the south, which, though only half as large as Greymouth, counts as the provincial capital, having declined since the first gold rush, when the mountain gorges behind were alive with the tents of miners and eager prospectors. An inland line brings down the produce of the Kumara gold-fields and of the coal-mines about Lake Brunner, both of which make small groups of population; but progress is soon barred by the Alpine wall that here divides the island. A railway across this is one of New Zealand's aspirations. In the meantime its Otira Gorge and Arthur's Pass are threaded by a coach-road on which travellers get grand glimpses of the mountain scenery when not hid by clouds and storms that in the wet season give them also some taste of adventure.[1] Hokitika, the wettest town in New Zealand, has a yearly average of 126 inches of rain, five times as much as falls at Christchurch on the opposite coast.

Leaving this Antipodean Switzerland for the present, on the east of the mountains we descend into a very different country, where the central Canterbury plains lie open, flat, dry, well watered by shifting and branching streams, and running up into the hill country in alluvial tracts and rich downs, more adapted for the growth of corn and wool than for picturesque or adventurous touring. The Canterbury province was settled independently under the auspices of an

[1] "Especially striking is the transformation in the passage over the fine pass which leads through the Dividing Range between pastoral Canterbury and Westland. At the top of Arthur's Pass you are among the High Alps. The road winds over huge boulders covered with lichen, or half-hidden by koromiko, ferns, green moss, and stunted beeches, gray-bearded and wind-beaten. Here and there among the stones are spread the large, smooth oval leaves and white gold-bearing cups of the shepherd's lily. The glaciers, snow-fields, and cliffs of Mount Rolleston are on the left. Everything drips with icy water. Suddenly the saddle is passed and the road plunges down into a deep gulf. It is the Otira Gorge. Nothing elsewhere is very like it. The coach zigzags down at a gentle pace, like a great bird slowly wheeling downwards to settle on the earth. In a few minutes it passes from an Alpine desert to the richness of the tropics. At the bottom of the gorge is the river foaming among scarlet boulders—scarlet because of the lichen that coats them. On either side rise slopes which are sometimes almost, sometimes altogether precipices, covered every inch of them with thick vegetation. High above these tower the bare crags and peaks, which as the eye gazes upwards seem to bend inwards, as though a single shock of earthquake would make them meet and entomb the gorge beneath. In autumn the steeps are gay with crimson cushion-like masses of rata flowers, or the white blooms of the ribbon-wood and koromiko. Again and again waterfalls break through their leafy coverts; one falls on the road itself and sprinkles passengers with its spray. In the throat of the gorge the coach rattles over two bridges thrown from cliff to cliff over the pale-green torrent. In an hour comes the stage where lofty trees succeed giant mountains. As the first grow higher, the second diminish. This is the land of ferns and mosses. The air feels soft, slightly damp, and smells of moist leaves. It is as different to the sharp dry air of the Canterbury ranges as velvet is to canvass; it soothes, and in hot weather relaxes. The black birch with dark trunk, spreading branches, and light leaves is now mingled with the queenly rimu, and the stiff, small-leaved, formal white pine. Winding and hanging plants festoon everything, and everything is bearded with long streamers of moss, not gray but rich green and golden. Always some river rushes along in sight or fills the ear with its noise. Tree-ferns begin to appear and grow taller and taller, as the coach descends towards the sea."—Hon. W. P Reeves' *Long White Cloud*.

association headed by the Archbishop of Canterbury, Lord Lyttelton, and other sound Churchmen, the idea being to form a happy family of emigrants who should all be members of the Church of England. The doctrinal unity of these modern "Canterbury Pilgrims" has been a good deal entrenched on in the course of time, but Christchurch, "city of the plains", bears signs of that origin in its cathedral, and in the names of English dioceses given to its streets, though their roomy, rectangular laying-out and their wooden houses make an Antipodean contrast to an English cathedral city. Christchurch, with its parks and its miles of suburban villas, is a handsome place, containing in all 68,000 people, so at present the second city in the colony. Among other institutions, it has a college of the New Zealand University, and a museum with a remarkable collection of moa skeletons. As befits, it stands on the Avon, a willow-bordered stream now populated with trout like its Hampshire namesake, though the salmon of the English Christchurch have not thriven here. Near it appears the dry course of another stream which, it is hinted, might some day be reflooded with disastrous effect on the city, disquieted also by earthquakes, one of which shook down the spire of its cathedral.

Counting Sheep at a Sheep Station on the Canterbury Plains

The flat plain is cut off from the sea by steep hills, through which a railway has been tunnelled to Lyttelton, that, 7 miles from Christchurch, is its natural harbour, improved by construction and fortified. Beyond, swells out the Banks Peninsula, pierced by a deep sound at the head of which is Akaroa, originally a French settlement, where the British flag was hoisted just a few hours before France proposed to perform the same ceremony. This makes a bathing-place for the Christchurch people when they find their summer too hot; they have a nearer one episcopally named Sumner, and airy health-resorts on the mountains to

the west. Up to the foot of these heights spreads a network of railways connecting the capital with smaller towns, Rangiora, Kaiapoi, Ashburton, &c.; then 100 miles to the south, on the line running into the neighbour province, comes the port of Timaru, which, with 6500 people, is the second town of Canterbury. A railway northwards towards Blenheim at present ends at Culverden, from which a coach-drive takes one on to the Hanmer Hot Springs, an airily situated health-resort within the southern bounds of the Nelson province.

Otago, in the south-east, had also an ecclesiastical origin, but of quite another pattern. It was founded by Scotsmen, and mainly by members of the

Photo. Muir & Moodie, Dunedin

Dunedin, from Heriot Row

Free Church, then in the first flush of its protesting independence. The early settlers had hardships and trials to live down with the robust endurance of their race; but their colony grew to call itself the most prosperous part of the island, though their chief city seems to have been of late outstripped in numbers by Christchurch. Dunedin, with its 56,000 people, is, of course, designed as the south-world Edinburgh. It stands built of gray stone on steep hills, mounted by cable trams. It has not yet had long enough life for an "old town"; but it can speak of an upper one. Prominent among its handsome buildings are churches, high schools for boys and girls, and the college. A winter climate, severe for New Zealand, but healthy for the youth, who here sometimes get the chance of a snowball bicker, while their elders have a curling-ground in a sunless gorge, goes to complete a resemblance duly carried out by such names as Princes' Street, George Street, High Street, Great King Street, and Moray Place. This city has its Queen's Drive, too, and its pretty Water of Leith,

which one notes an ill-informed English visitor taking for water of *Lethe* and getting muddled accordingly:

> "—Parvam Trojam, simulataque magnis
> Pergama, et arentem Xanthi cognomine rivum,
> Agnosco".

The Leith of Dunedin is Port Chalmers, 7 miles down the long Otago harbour, whose head touches the city. The open sea is not far off, where tramways take the citizens to their Trinity and Portobello, here known as St. Clair and Ocean Beach. There is fine hill scenery within reach; and the map of Otago may well be dotted over with such names as Dunkeld, Roxburgh, Athol, Clyde, and so forth. Mossgiel, 10 miles from Dunedin, is noted for its woollen mills, so one feels disappointed at not crossing a Tweed here. But Otago has also Irish settlers, who have imported the thatched roofs and mud walls of their native land; and they may consider themselves represented by the name of Palmerston. The second town and port of Otago, with 5000 people, 80 miles north of Dunedin, has indeed a heathen title, Oamaru, which surely ought to have been changed to Dundee.

A Typical New Zealand Shepherd

With Otago, however, was at one time incorporated the terminal province of Southland, whose chief place, Invercargill, has 11,000 people to populate its Dee Street, Tay Street, and Esk Street. Invercargill, as its name promises, makes an estuary port for small vessels; and 17 miles off, the Bluff Harbour, at the southern point of the island, is the first landing-point of passengers from Melbourne, who in winter may here get an unfavourable impression of the climate. This port, alias Campbelltown, is connected with Invercargill on its flat plain, and Invercargill with Dunedin (130 miles), by a railway line giving off loops and branches to other embryo centres of prosperity. The Bluff, by the way, has no right to boast itself the most southern town in the world, that distinction now belonging rather to Punta Arenas on the Magellan Strait. Gore, with about 2500 people, is the second town of Southland. The southern districts are mainly given to sheep-raising, not always at a profit, as British shareholders have cause to know. It also has farming and dairy produce; and several local manufactures have been protected into being. British berries flourish at this cold end, also apples, but more delicate fruits require some nursing on sunny

SCENE ON MILFORD SOUND, NEW ZEALAND

The magnificent series of fiords or sounds in the south-west of South or Middle Island, New Zealand, is now well known in descriptions. They are regarded as unsurpassed by similar features in any other part of the world. The most familiar, and perhaps the finest, is Milford Sound. Like the others, it is surrounded by lofty mountains, clothed with foliage up to the snow-line. Near it there is the splendid Sutherland Fall, descending 1900 feet in three great leaps. The depth of the sound is 1270 feet at the head, but only 130 feet at the entrance.

Valentine

SCENE ON MILFORD SOUND, NEW ZEALAND

walls. There is plenty of coal, not so satisfactory in quality; some of it brown lignite, a transition stage between peat and coal; and sometimes the transplanted Scots are fain to utilize New Zealand peat. Gold is found in so many parts that Otago supplies one-third of the whole yield from the colony, a specially rich bed being the valley of the Clutha, New Zealand's largest river, which, rising in the northern lakes of Otago, has a course of 200 miles to the south-eastern coast, and can be navigated for 40 miles up. Most of the highland streams, however, have the defect of their quality in being of no use as means of communication. A peculiarity of gold-mining in this island, by the way, is, or has been, the use of dredges, "grotesque machines", here first used for combing the precious deposits out of rough torrent beds, and now being adopted on other gold-fields.

When balloon-travelling is better organized and New Zealand comes into the sphere of a London or New York holiday trip, perhaps no small wealth of Otago may turn out to be in its natural scenery. The larger part is mountainous, and on the west side there are fine forests. The south-western coast is broken by a series of thirteen sounds, like the fiords of Norway, deep arms of the sea, winding between giant cliffs, glaciers, and waterfalls into the heart of mountains, sometimes almost precipitous for thousands of feet, again clothed with rich forest to their snowy tops. The northernmost, Milford Sound, is considered the finest, but all offer marvellous scenes apt to be spoiled even oftener than in Norway[1] by the wet weather of this coast, which has 150 inches of rain in the year.

Another feature of Otago is its great mountain lakes, the largest of which, Te Anau, lies not far from the head of the Sounds, separated from them by a ridge of mountains; and to the south of this Manapouri is said to be the loveliest. The best known is Wakatipu, colloquially Wakatip, which, 54 miles long by only 3 or 4 miles broad, is easily explored by steamers. On it a gold-miner's village is growing into a resort, the Braemar or Windermere of Otago, named Queenstown, perhaps in compliment to Queen Victoria's love of highland

[1] We must beware of comparisons with familiar aspects nearer home, since such comparisons do not always satisfy New Zealanders. "To her infinite variety the monotonousness of a South Sea island, or the tameness of Scotch scenery, is as a pen-sketch in black-and-white to the rich colouring of a picture", boldly declares Mr. Edward Reeves to be distinguished from the Hon. W. P. Reeves quoted on a former page, who, while not always so superlative in patriotic admiration, for his part calls these sounds the "loveliest series of gulfs in the world". It is curious, by the way, that of New Zealand's few authors, two of the most readable are namesakes. That partiality may not be suspected, let us see what a British observer, the Rev. W. S. Green, has to say of the Sound scenery which appears to be New Zealand's unique feature. "The grandeur of Milford Sound—its great precipices and waterfalls, which reminded us of the Geiranger Fjord in Norway—was not so striking a feature in George Sound, where all was rich beauty. One fall, indeed, embowered in trees like Giesbach, we passed near the entrance, but the dense forests reaching from the sea-level to the snowy hill-rops, the fern foliage, and the red flowers of the rata, gave to the scene a glory quite its own. The expanse of water which we saw on entering reminded us somewhat of the Lake of Brienz, and on reaching its inner end we expected to turn round and come out. But this was only the vestibule, for a deep gorge opened to the right, so narrow that the steamer could barely have turned in it. And now we steamed through the most lovely corridor of rich forest scenery, rising tier above tier to the highest limits of vegetation. On and on we went, past an islet covered with fine trees draped with lichens, the whole reflected gem-like in the still water, thinking that every bend and branching arm would be the last, till, on reaching it, another charming vista opened ahead. When about 12 miles from the sea, we reached the inner sanctuary, a fitting home of the nymphs. A strong rush of water here met us, while the filmy haze and dull booming of a waterfall filled the air. The screw now ceased its motion, the eddy of the fall drew us along, grazing the rocks and trees which hung their branches almost over our deck; we slipped past a point and entered a little basin, in which we were quite shut in from the view of more than half a square mile of water. Immediately before us the foaming fall plunged into the sound, filling the air with its roar. For a moment we felt as if we were at the bottom of a deep well, so small was the patch of sky overhead, the walls of forest all around rising rapidly for 3000 or 4000 feet. The next moment the eddy swept us into the main current of the fall, and though the *Te Anau* was a vessel of some 1500 tons burden, she was instantly spun round and drifted out of the sacred spot, in which, we can imagine, an extraordinary meeting of oreads, dryads, and naiads was immediately convened to denounce the modern abomination of steam navigation."—*High Alps of New Zealand.*

Photo. Muir & Moodie, Dunedin

Head of Lake Manapouri

scenery. It might have been called Comrie, as being subject to slight earthquake shocks strayed so far from the North Island; but the visitors of Rotorua can hardly hope for skating in winter as may be one's lot at Queenstown. Behind the little town rises Ben Lomond, and on the opposite side Ben Nevis towers 3000 feet higher than his godfather out of a serrated range known as the Remarkables. All along, the river-like lake, its waters colonized by huge trout and its banks swarming with rabbits, is deeply set between peaks and crags, wooded headlands and stony slopes of scree, up to the inns of Kinloch and Glenorchy; then beyond its farther end, looking down on the lovely Diamond Lake, towers the two-headed Mount Earnslaw (9165 feet), glacier-seamed and forest-clad, beyond which again Mount Aspiring (nearly 10,000 feet) is the highest and farthest point of Otago. Kingston, at the foot of the lake, is reached by rail for a voyage that cannot be beaten, we are told, in Europe, unless on the Lake of Lucerne. Lake Wanaka, farther north, is the cradle of the Clutha, with Lake Hawea near it, where we get back to the Canterbury province.

North of the Otago highlands comes the true Alpine region of New Zealand in the lofty dividing range, a belt rather than a chain of mountains, between the Westland coast and the Canterbury plains. As the North Island has its wonderland of fire, so here nature has wrought with another mighty force. Among summits hardly short of the Swiss Alps, we find, carved out by frosts, storms, ice-streams, and avalanches, the same awe-inspiring features—snowy domes, splintered *aiguilles*, bristling *arêtes*, saw-like sierras, wind-swept *couloirs*, precipitous chasms, fearsome gorges mounting up to fields of *névé* that curdle into great glaciers, moving imperceptibly down, fouled by their burden of moraine,

broken by glistening *seracs* and blue crevasses, to trickle away in milky streams that may not have far to flow, for some of these glaciers descend to within a thousand feet above the sea. Mount Cook, sometimes called by the native name Aorangi, is the highest point (12,349 feet), standing off the main range, a mass of most noble aspect. Within a radius of 17 miles from this, Mr. A. P. Harper tells us, there are thirty-one glaciers, chiefly on the rougher western side. Within a mile round one of his lower camps he counted eighty-six waterfalls, ranging from 300 to 2000 feet in height. The Tasman Glacier is 18 miles long and 2 miles at its widest, at one point swollen by an ice-fall

Photo. Muir & Moodie, Dunedin

Mount Cook, from the Hooker River

of 4000 feet. In these grand solitudes flourish the edelweiss and other hardy blooms, among them a mountain lily, which Mr. Harper calls the finest Alpine flower he has seen in any country; and on the west side are found tangles of thick scrub, such as the *nei-nei*, growing 30 feet high, with twisted limbs, and heads like a pine-apple, so as to give a hint of the tropics close to the snow-line, that in New Zealand comes 2000 or 3000 feet lower down than in Switzerland. The western flanks are less thickly wooded; but on this side, far seen from the plains beyond, the mountains stand out in distant glory against a background of storm-clouds and sky-tints that often make a Turneresque panorama.

The New Zealand Alps have been roughly explored; and there is now a school of native climbers, like the writer just quoted, who, as a member of our Alpine Club, is in a position to make comparisons. For them the "Hermitage", below Mount Cook, is what Zermatt is to Swiss mountaineers; but many virgin peaks still challenge achievement by knights of the ice-axe who care to travel to

the other end of the world. The way up Mount Cook was first shown by an English clergyman, Mr. W. S. Green, in a long trip, full of trying experiences. Setting out on a six months' holiday, with two Swiss guides and their Alpine equipment, his first check was being put into Australian quarantine for some weeks, since small-pox had broken out on his steamer. Once at the foot of their mountain, the party had to spend weeks in reconnoitring its flanks, in waiting for storms to pass over, and in feeling their way. At last, having pushed their approaches to within 3000 feet of the crest, they made the final assault through wind, mist, and avalanches of ice and stone. Darkness was at hand when they had reached what seemed not absolutely the highest point, but might be considered practically the summit. They had to beat a rapid retreat, halting for the night upon an exposed narrow ledge, where, lashed by chill rain, they could hardly move without risk, yet must keep themselves from falling into a frozen sleep. "Not one moment too soon" came the dawn, when cautiously they set their benumbed limbs in motion to find their upward tracks in several parts destroyed by the avalanches that had been crashing round them through that perilous night. After going nearly a day and a night with hardly a mouthful of food, they hit on the spot where they had left their knapsacks and provisions; then, after an absence of sixty-two hours, reached their tent, returning at ease to the settlements, to be hailed as heroes of an exploit that has since been achieved by more than one Antipodean Alpinist.

OUTLYING ISLANDS

About the broken coast of New Zealand are many islands large enough to support a handful of people; and many others within a radius of hundreds of miles are counted as belonging to the colony. Of those close to land, the best populated, with some 500 people, is the mountainous and wooded Great Barrier Island, that, lying north of Cape Colville, closes the view eastward from Auckland. The adjacent Little Barrier, and two other small islands at different points, have been set apart as preserves for the native fauna and flora; while one islet makes a prison for dog-immigrants, who by six months quarantine here must purge themselves from all suspicion of hydrophobia. The White Island, 25 miles off the shore of the Bay of Plenty, has upon it an active volcano that yields pure sulphur.

The largest of these immediate neighbours is the southern Stewart's Island, that, with much the same relation to New Zealand as the Isle of Wight to England, rather too pretentiously fixes the name of the Middle Island, from which it is separated by Foveaux Strait. It makes a county, 665 square miles in area, which in the old provincial division was a dependency of Otago. The chief attraction to it is rugged forest-clad scenery behind a fine coast of bays, deep fiords, and rocky islets, often visited by tourists and sportsmen from the Bluff Harbour, 25 miles away. The settled population is only two or three hundred, besides a small group of Maoris. Fishing and oyster-gathering seem to be their main industries. The largest gathering is about Half Moon Bay, a fine port on the east side, south of which Port Pegasus makes another landlocked haven. At the north end Mount Anglem, with its extinct crater, is

over 3000 feet. That New Zealand has still room for settlers appears from the fact of this island being so poorly inhabited, for the soil, when cleared of bush, proves fertile, and the climate has an insular mildness.

The Chatham Islands lie about 500 miles to the east of the Middle Island, the principal one called after Lord Chatham, another bearing the name of Pitt. They are inhabited by a very mixed population of about 200, the original natives having seventy years ago been literally eaten out of house and home by a cannibal hunting-party of New Zealand Maoris. At one time they were used as a place of exile for Maori rebels. The Chatham Island Lily, with its brilliant blue flowers, is perhaps the most famous feature of these islands. Their low grassy hills give pasture for sheep and cattle, which find an occasional market in the whalers visiting them.

The Bounty Islands lie to the south of this group; then farther south come the volcanic rocks of the Antipodes Islands, that get their name as being almost opposite the south of England, within 50 miles or so, indeed, but near enough for the rhetorical writers who speak of New Zealand as our antipodes, neglecting a mere 500 miles, by which it is distant from the exact spot of ocean at which one would come out if a tube could be made straight through the earth from London.

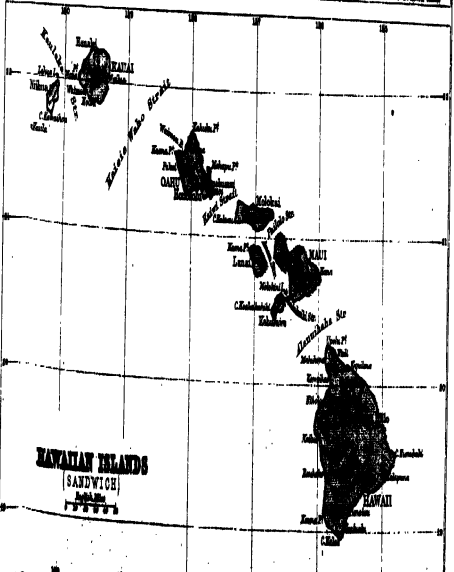
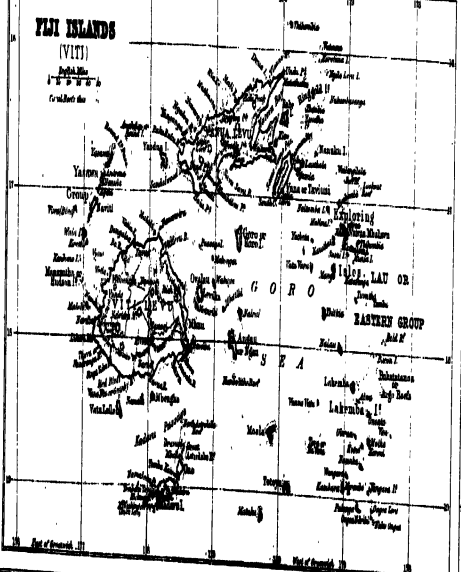
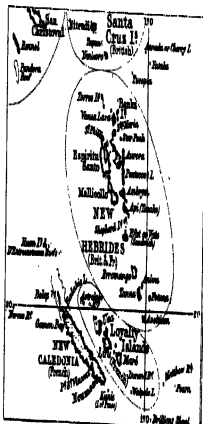
The almost uninhabited Auckland Islands are about 200 miles to the south of New Zealand. The principal island is 27 miles long, and has at its north end a harbour known to whalers, which the French explorer D'Urville styled one of the best in the world. Here the New Zealand Government keeps a depôt of clothes and food for the aid of shipwrecked mariners, as also on several other out-of-the-way islands, a fact that by this time should be known in the nautical world; but ten years ago a crew of castaways at the Antipodes spent a miserable three months without discovering how their case had been benevolently provided for in advance. These refuges are regularly visited by a Government steamer to pick up any Robinson Crusoes or Fridays who may have been stranded on such dismal solitudes. The climate about the Aucklands is very wet and stormy, yet they nurse some brilliant flowers and peculiar birds in a latitude corresponding to that of southern England. Farther south lie lonely groups, of which little more is known than the names, Campbell and Macquarie Islands, on the edge of the Antarctic region, where firm land is confused with floating ice.

We now turn to the north of New Zealand, where it has a satellite in the Kermadec Group, 600 miles away, opposite Norfolk Island and the coast of New South Wales. These volcanic rocks, where not steeply rugged, have a rich soil and exuberant vegetation of ferns and other forms familiar in New Zealand, but a want of water and of harbours makes them almost uninhabitable. The largest, Sunday Island, *alias* Raoul, is about 20 miles round; and the next in size has been christened Macaulay Island, perhaps in hope that some day its scenery and resources may be familiar to "every school-boy". The Kermadec Islands have belonged to New Zealand since 1887. Of late the colony has been looking out for fresh acquisitions, and had cast its eyes at Samoa, which, however, came to be otherwise appropriated while the British Lion was much engaged in South Africa.

Over the Cook Islands and their native queen New Zealand had for some time exercised a beneficent protectorate; then in 1901 she annexed this group

with several others on the southern edge of Polynesia, having in all a population of some 12,000, akin to the Maoris, though mixed with Melanesian blood, and long ago tamed by conversion. They are governed by a commissioner, who has his seat on Rarotonga, the most fertile of the Cook Islands, a razor-backed mass of rock 20 miles in circuit, where the people are so well schooled as to have a newspaper printed in their own language, with parallel columns in English. Rather larger is Mangaia to the south, and two or three times as large Niue or Savage Island, nearly 600 miles westward, beside the Tonga Group, which island, though Cook gave it a name for savagery, has an exceptionally vigorous stock of natives. Others bear a curious mixture of native and exotic names—Manahiki and Palmerston, Rakahanga and Penrhyn. These coral islands or atolls, with a warm, damp climate, produce oranges, lemons, bananas, coffee, and cotton; but the cocoa-nut, in the form of copra, seems to be their most profitable yield, and in some parts pearl-shell. We are here fairly among the South Sea Islands, that form a new division of Oceania.[1]

[1] New Zealand has now lost her guiding spirit, the popular prime minister nicknamed "King" Dick Seddon, who was largely responsible for what to some seemed an unsound financial policy. Her latest defiance to criticism on this head is reports of growing production and commerce; but also snakes appear in the socialistic paradise. The Compulsory Arbitration Act has not been working smoothly, its decisions being more easy to enforce against masters than men; and there are signs of reaction against democratic hampering of industry. With the aid of female suffrage, a vigorous crusade is being carried on for the enforcement of temperance. New Zealand has lately introduced into her elections the second-ballot principle.

Penguins, Macquarie Island

MELANESIA

In describing the Malay Archipelago it was found necessary to break off at an artificial frontier where we were being gradually drawn on from Asia into Australasia. In the eastern part of this archipelago, Malay features begin to be overlaid by those of the Papuan race, which, often confounded with the Polynesians, under the general name of South Sea Islanders, seems entitled to rank as a separate branch of the human family. The typical Malay is yellow or light brown, with straight black hair. The Polynesian is brown, with frizzly or not quite so straight hair. The true Papuan is blackish, with a mop of woolly hair; and to his home has been given the name of Melanesia. Kanacks or Kanakas is a nickname by which white men are in the way of loosely describing all the Pacific islanders, Papuan or Polynesian.

The bulk of Melanesia is the island continent of New Guinea, from which a long kite-tail of lesser islands extends south-eastwards for more than 1500 miles. These are largely volcanic, some of them showing still active craters, while many small ones are of the coralline formation from which higher points have been upheaved. Their vegetation, often rich, passes by transition from that of Asia to some characteristics of Australia, New Zealand, and Polynesia, as on the eastern side Polynesian blood appears to be mingled with Papuan. Animal life is deficient in its larger forms, but not in numerous and gloriously-plumaged birds; rats and bats appear to be the only indigenous mammals on some islands. On some, pigs and cattle have run wild so as quickly to become savage game; but generally no land animal is so much to be feared as sharks, stinging rays, and poisonous fishes. Fish enters much into the food of a people on whom necessity has forced bold dealings with the sea. Their chief crops are yams, the tuberous root of a vine that on rich soil may grow to a hundredweight; taro, the farinaceous bulb of an arum, thriving on wet ground, which can be cooked to taste much like new bread, and the leaves when boiled resemble spinach; sweet-potatoes; and bananas—all cultivated or got with little trouble; also, they live on fruit, notably the melon-shaped bread-fruit, and the cocoa-nut, which supplies both meat and drink. Some small islands have no fresh-water-courses, so that their inhabitants depend entirely on cocoa-nut milk, being too ignorant and too superstitious to pierce the subterranean reservoirs or stalactite grottoes that suck in an abundant rainfall brought by the north-west monsoon during the summer months (October to April), while dry south-east winds prevail for the rest of the year, with a delightful temperature between 80° and 85°. Certain parts, however, are liable to rain all the year round, where the almost constant damp makes the low-lying ground feverish. All these islands suffer from occasional hurricanes, if not from volcanic convulsions.

Perhaps the want of game has given the Papuans a strong taste for cannibalism. They are for the most part cruel savages, their small tribes cut off by continual hostility, often speaking separate languages within the bounds of one small island. Their notions of morality are naturally low, and their political organization is slight; but their bellicosity prompts obedience to chiefs, either hereditary or elected, wealth having sometimes a weight in the choice, for property plays its part with them. They often use some clumsy kind of money, and easily learn to be keen traders. Their native weapons—axes, spears, and knives pointed with bone, shell, or stone; their clubs, slings, and poisoned arrows

Scene in German New Guinea: Natives constructing Fish-Traps

Photo. Moses & Co., Singapore

—are being so fast replaced by the arms of civilization, that islanders who a generation ago eagerly received the most old-fashioned musket now prove critical purchasers of breech-loading rifles. Carving is the art most developed among them, and the making of often elaborately-ornamented canoes, poised on outriggers, worked by paddles or mat sails. Ingenious nets and other snares are used in fishing. Carved wooden bowls and other utensils are often supplemented by pottery, the form of which would appear to be suggested by such shapes as hornets' nests hanging to the eaves of their houses. The use of betel-nut is common among Melanesians; less so the Polynesian intoxicant kava; and they take most readily to tobacco introduced by their visitors. Where supplied with matches, they begin to lose their readiness in making fire by friction. As to clothes, they are not exigeant; but they have the usual savage love of showy ornament, which, in their case, runs much to the disfiguring style of insertions in

the nose and ears. In some parts the heads of children are artificially misshaped. Altogether, with their dirty nakedness, their brutal faces, their uncouth mops of hair, and their grotesque finery, they make an ugly contrast with the handsome and gentler-natured Polynesian;[1] yet there is often noted among them a remarkable sense of form and colour. Among themselves appear shades of difference in a general similarity of hue, fashions, and ornaments, so that a practised eye can distinguish the natives of separate islands or groups by some special feature. The tribes of interior districts seem, as a rule, more barbarous and backward than those whose wits have been sharpened by living on the sea.

Their customs and institutions also show a certain range of diversity, with some frequent common features here and there brought into different degrees of prominence. Wide-spread in the Pacific is the dog-like habit of touching noses, by way of salutation, instead of our familiar kiss. Well diffused in the savage world is the law of succession by the female side, a chief's heir here being sometimes his sister's son rather than his own. Too natural among the sons of Eve is it to deal with women as the chattel of man; but the barbarous rules and restraints of sexual intercourse must to a great extent be taken for granted in such a work as this. In New Guinea, as elsewhere, an institution showing some regard for morals, is the barracks or "club-house" that makes quarters for young unmarried men, no woman being allowed to enter. Religious rites will usually be kept from the prying eye of strangers, whose stolen glimpses leave it uncertain how far any particular observance may be racial or tribal; but ferocious pantomimic dances seem the favourite ceremonies. More than one detective of civilization has noted an elementary legal procedure in the *Duk-duks*, highly-privileged inquisitors who appear from the sea like the Father Neptune of equatorial high jinks, fearfully disguised in leaves and enormous masks, vested with absolute authority to hear complaints and punish offenders, no one daring to resist them, and women and children flying out of their sight. It is death for a woman even to see the Duk-duk. A special function of such mysterious mummers, in one island if not always, is the initiation of young men, a somewhat painfully prolonged process, as the main feature of it is beating the neophyte with clubs and canes that draw blood at every stroke, and this ceremony, kept up for a fortnight together, half a dozen times a year or so, may, we are told, be repeated for twenty years or so before the well-seasoned youngster is admitted to the freedom of his tribe. A secret society of chiefs and the old men, no doubt, pull the strings of that supposed supernatural visitant, who may kill anyone he pleases without question. Such Mumbo-Jumbo officials seem to have European survivals

[1] "I can conceive of no more repulsive objects than were some of these men. Let a copper-coloured savage shave his head in parts; let him gather up such of his crisp woolly hair as is not cut, into long frizzly tails, which will stand out like spokes from the boss of a wheel; let him dye some of these white and some scarlet as his sweet fancy may direct; let him smear his face with charcoal, relieving the monotony of soot, however, with scarlet or yellow streaks; let his body be scaly like a fish's, from skin disease, and yellow in parts from the wearing or carrying of turmeric-coated mats; put a thin mat between his legs, and a large round shell plate upon his chest; squeeze a dozen pearl-shell bangles upon the upper part of his arms, and hang a ring through his nose and twenty in his ears, not forgetting to smear his big ugly mouth with the red juice of the betel-nut; let him carry always and everywhere some twenty thick arrows, highly carved, tipped with poisoned human bone, and painted red and white; add to this interesting bundle a long red bow, and perhaps a richly-ornamented club, and you have the makings of a pretty considerable ruffian. Not one whit less terrible in appearance than this description implies were many dozens of the men that now swarmed upon the decks of the *Southern Cross*. Some of them were fine, good-looking young fellows gorgeously arrayed in pearl armlets and tortoise-shell earrings, and wearing elaborately-fretted mother-of-pearl plates fastened into their noses, which partly hid the centre of the face. There were also white-headed and closely-cropped old villains, with countenances little short of demoniacal in their ugliness; and all were in a state of excitement which I should have thought beyond possibility." —Walter Coote's *Western Pacific*.

in the *Knecht Rupert* of German nurseries, and the bedizened *Saltner* who guards Tyrolean vineyards. The Duk-duk bogeys of New Guinea are said by Mr. Romilly to be got up somewhat like the Jack-in-the-Green that still figures occasionally in London streets. In Melanesia, as all over the world, we come on curious hints of superstition paralleled nearer home, as, for instance, practising upon an enemy's life by secretly hacking at a wooden effigy of him.

The chief commercial production of these islands is cocoa-nuts, from which at one time the oil was wastefully pressed by rude apparatus; but the kernels

Photo. J. W. Lindt

Native (Koiari) Village, with Tree Houses, British New Guinea

are now sent to Europe in the dry form known as copra. Trepang, or bêche-de-mer, a sea-slug abounding on the coral reefs, like an india-rubber bag perhaps a foot long, is in great demand for China, that has such a tooth for this queer delicacy. Sandal-wood, found on some of the islands, which, however, is growing scarce, has also gone to feed the odorous fumes of Chinese temples. The pearl-shell and tortoise-shell of the shores have a wider market. The minerals of Melanesia are only beginning to be exploited, the most valuable as yet being the nickel and other mines in New Caledonia.

The traders who risk their lives in the collection of these wares have seldom been the best class of white men; and still worse models are presented by runaway sailors and criminals who have found refuge here and there among congenial lawlessness, forming a type known as the "beach-comber", whose life is a proof how easily man reverts to the savage when out of reach of church bells and police magistrates. This race of scoundrels, now apparently dying out, sometimes, even in recent days, rose to the lurid dignity of pirates. Other

outlaws may show themselves not wholly depraved, as when a shipwrecked crew has owed its safety to a white man installed as chief of cruel savages. The offspring of such renegades are apt to unite the vices of both breeds. Then the natives have come into contact with civilization in the very questionable shape of the "labour traffic", carried away from their islands to work on Queensland and Fiji plantations, as on those of French and other colonies, the worst fate being that of poor creatures enslaved in Peruvian mines.

At one time the atrocities of "blackbirding" became notorious, when unscrupulous scoundrels cruised among remote islands, kidnapping men and women into practical slavery, where, even though treated humanely, they sometimes died of home-sickness, often of new diseases and altered conditions of life.[1] Such outrages might be indiscriminately avenged on the next white visitors, the suspicious and treacherous Papuan being always ready for attack with the odds in his favour; and the history of Melanesia is thus a long series of murders, massacres, and reprisals, that have cost valuable lives devoted to the welfare of this benighted people. Even after the labour trade came under strict regulation of the colonial governments, its management and results were not satisfactory. An official agent went with each vessel to see that the "boy" was fairly induced to offer himself as recruit for a bounty which usually took the form of goods given to his chief or tribe, and to explain the nature of the contract by which he became bound to serve for so many years. But the ignorant islander had no clear conception of time, and little patience of restraint; and often, after engaging himself, home-sick or sea-sick, took the first opportunity to desert. If safely delivered on a plantation, the effect of this new life on him made another much-controverted question. The friends of the system dwelt on the beneficial discipline of steady work, and the superficial coat of civilization given to those black skins. Its enemies declared that it was the worst points of white men he picked up to take back with him, along with the gun, clothes, tobacco, gewgaws, and other goods that, bought at an exorbitant price from cheating shopkeepers, represented his earnings. This baggage usually fell into the hands of the tribe on his arrival at home, where his first proceeding might be to strip himself naked again; and if put on shore a few miles from his own people he was like to be murdered as well as robbed by hostile neighbours. Too often he came back demoralized and diseased, a more cruel fate than the occasional severities with which his masters might be reproached. Some Kanakas, indeed, remained in the colony of their own free-will; others re-enlisted after being sent home. But the whole system was so like slavery that all along it has been denounced by warm-hearted philanthropists. It is now come to an end, so far as the Australian colonies are concerned, through the white working-man's dread of cheap labour. Queensland, where opinion was divided on the question, has been forced by the Commonwealth not only to cease importing Kanakas, but within a certain term to banish

[1] One of the most painful stories of "blackbirding", not a solitary case, is that of a ship on which natives were lured by a pretended missionary. Another time, when several canoes came out to trade, they were sunk by heavy weights thrown into them, and their crews left to choose between being made prisoners or meat for sharks. The unfortunate wretches thus pent together in the hold were of different tribes, and in their helpless amazement they naturally took to fighting, while some in desperation tried to set fire to the vessel. The white men put down this riot by firing into the mob till all was still; then, to stifle the evidence of their crime, they threw overboard not only the dead but the wounded. Their atrocities, however, leaking out, they were brought to trial in Australia, and the principals sentenced to imprisonment for life. It is said that some such ruffians would sell human beings to be the victims of cannibal feasts.

those settled in the country. After all, this exclusive policy of Australia is in principle much the same as the sentiment expressed by massacres, which are the Papuan patriot's natural resource for letting strangers know themselves unwelcome in his country. To spear a boat's crew would be his rough-and-ready way of proclaiming quarantine and protection.

A "change of vices", here as elsewhere, has usually been the baneful result of intercourse of black men with white. The missionaries have denounced the labour recruiters and the unprincipled traders as wolves among their flocks. But the effect of conversion appears too much to be a flabby degeneracy from native

Group of Pitcairn Islanders

Photo. Beattie, Hobart

qualities. Bloodthirstiness and superstition are often replaced by laziness and hypocrisy. When the New Hebrides missionaries complained that their scattered diocese was being depopulated by the labour traffic, it could be retorted that Aneiteum Island, which had been under their sole influence for a generation, and where all the people professed to be Christians, had decreased in population faster than any other of the group. The directors of missionary enterprise seem now more awake to the effect of a too sudden change of customs and ideals upon a childish race. But it is to be feared that the best intentions helped to pave a road to ruin for these poor islanders, among whom has been cast some of the worst refuse of civilization.

Before entering upon the black archipelagos, let us look aside at a lonely island that has gained note out of all proportion to its size. Far to the south of Melanesia, nearly half-way between New Caledonia and New Zealand, and 800 miles off the Queensland coast, emerges Norfolk Island, once of evil name

as a British penal station. Remote, difficult of access, and only half a dozen miles long, this precipitous rock has several points of interest. It is the doyen of our antipodean island settlements, discovered by Cook in 1774, without a soul upon it, and towards the end of the century peopled by desperate convicts, whose life here was made a hell upon earth, amid the beautiful surroundings which, within an iron-bound coast, present the features of an undulating park, adorned by the grand Norfolk Island pine, springing to a height of 200 feet. The discipline of these exiles was so brutal, that they often murdered their keepers, even their fellows, to escape from such a life, and would fall on their knees to give thanks for a sentence to the gallows, on which more than a dozen have been hanged at once. In the middle of last century this plague-spot of humanity was cleansed and given over to the Pitcairn Islanders, who had outgrown their little refuge in the Eastern Pacific. A generation ago, "every school-boy" was familiar with the story of the mutiny of the *Bounty*; but under the pressure of competitive examinations and of football, it may not now be so well known how the martinet Bligh with the loyal part of his crew was set adrift in an open boat, on which he made an amazing voyage of nearly 4000 miles; how the mutineers settled on Pitcairn Island with a harem of Tahiti women; and how, nearly a score of years later, their children were found living here under the patriarchal government of John Adams, the only survivor of that crew. They long got the credit of an Arcadian piety and simplicity which appear to have been exaggerated; now, at all events, put in possession of the convict buildings on Norfolk Island, they show much of the lazy, shiftless, and immoral semi-savage along with the inured virtue of being bold and skilful boatmen.

There are some hundreds of this stock on the island, governed by a New South Wales official. Since their arrival, another and perhaps more hopeful community has been established here in the college which makes the headquarters of the Anglican mission to Melanesia. This institution is somewhat on the model of an English public school, having "houses", cricket-field, and a chapel with Burne-Jones windows in memory of Bishop Patteson, as well as school-rooms and workshops; but its managers wisely do not force too violent changes of custom on the native lads and lasses who, brought from the different islands, are carefully and kindly trained to be teachers of religion and civilization among their own benighted peoples. Not the least difficulty in their education is the diverse speech found sometimes on the same island, a confusion of tongues which has led to the Mota dialect, from one of the Banks group, being chosen as a common language, more easily learned by these pupils than English.

NEW GUINEA

Australia and Greenland being left out of view, New Guinea is the largest island in the world, considerably the largest if we took into account the adjacent masses that seem to have been broken off from it. The area of the main island is estimated at some 300,000 square miles or more, a calculation made difficult by the sprawling projections in which its irregular form extends north-westward for

1500 miles, from about the 10th degree of south latitude almost to the Equator. The north-western peninsula is so deeply cut by M'Luer Inlet as to be almost, according to some accounts altogether, insulated. The compact central mass is as yet almost *terra incognita*. Through the north of this part, probably prolonged both to the east and the west coast, run high mountains, which appear to be covered with snow, and have been estimated as reaching a height of 16,000 or 17,000 feet. The north-western peninsula is also very mountainous; so is the long projection of the south-east, where the Owen Stanley Range has been partly explored, and its highest point, Mount Victoria, is put at over 13,000 feet. The centre is believed to be flat, and large parts of the coast-line are low and swampy. There are many rivers, of which few have been traced. The three largest appear to be the Amberno and the Kaiserin Augusta on the north side, and the Fly river on the south, which respectively belong to the three political divisions of New Guinea: Dutch, German, and British.

Only in our own times was it thought worth while formally to divide New Guinea among these powers, seldom visited as it had remained since its discovery in the early sixteenth-century voyages, when it got such an ill-fitting name from a superficial resemblance of its Papuan inhabitants to the negroes of the Guinea coast that were then the least unfamiliar savages. The influence of these nominal masters goes hardly beyond the shore and its inlets; and the whole island, separated from the Cape York Peninsula of Queensland by the islet-studded Torres Strait, less than 100 miles broad, remains still much unknown. Both Dutch and British expeditions have lately pushed into its mysterious centre.

The Dutch were the first settlers here, if the name settlement can be given to trading and missionary posts, the best known of them Dorei, at the western corner of the Great Geelvink Bay, that forms a deep indentation in the north coast, with several large islands stretching across its mouth. When Mr. Wallace lived here half a century ago there was not a single Dutch official, and he understood himself to be the only European in all New Guinea. Since then Holland has done little to extend her authority, but she claims all the western half of the island, the meridian of 141 degrees east longitude making the boundary, except where a bend of the Fly River encloses a bulging out of British territory. At the south end her line is marked by a small river; at the north, by Humboldt Bay, one of many good harbours on the Dutch coast; but it is only now and then that a steamer from the Malay islands enters M'Luer Inlet, the most accessible anchorage on the west side. In all this expanse, a country larger than the British Isles, there is nothing that can be called a town.

The north-east quarter was in 1886 acquired by Germany, and with the adjacent archipelago makes a field of activity for the German New Guinea Company. The whole territory has been baptized Kaiser Wilhelm Land, where its new owners are now filling up the map in their own language. Such names as Dampier Island, Mount Cromwell, Mount Gladstone, and Mount Disraeli recall the fact that we were first on the ground here; and the "Maklay coast" commemorates the Russian scientific explorer Maklai, who, landing all alone at night, was received by the amazed natives as fallen from the moon, though they did not take him into full credit as a supernatural visitor till he had nearly been killed by tests of his divinity carried out with spears and arrows. Of German settlements the most important is Finsch Haven, a harbour at the eastern point, which has regular steamboat intercourse with Surabaya in Java. Port

Constantin, at the bottom of Astrolabe Bay, farther north, is one of several other good harbours on the coral-reefed shore, behind which rise ranges of mountains, as yet little explored, but in parts they are believed to be over 16,000 feet. Besides the fruits and vegetables of the country, cotton, coffee, and tobacco have been grown with some success; and domestic animals introduced from Australia have thriven pretty well, except in the case of sheep. The great difficulty of the colonists appears to be labour, for which they cannot depend on the natives, but have imported more-patient Malays from the Eastern Archipelago. The climate is said to be equable and not too hot, fairly tolerable by Europeans; but here

Photo. A. C. Haddon

Native Villages, British New Guinea, with Port Moresby and the L.M.S. Station on the hills in the middle distance.

allowance may be made for the *couleur de rose* light in which Germans strive to see their far-spread acquisitions. Much of the coast-line, here as elsewhere, is unhealthy, while the mountains behind offer relief from the miasma of stifling swamps. It remains to be seen whether this will prove a profitable possession. The seat of government is Herbertshöhe in the Bismarck Islands, while Simonshafen makes a German naval base in New Guinea.

The intrusion here of a foreign power gave great dissatisfaction in Australia, which naturally inclined to look on its neighbour New Guinea as marked out for British inheritance. Our Imperial Government was not disposed to quarrel with a European neighbour on this score; but Germany's action stirred it up into taking more definite possession of the rest of New Guinea, as had already been attempted by Queensland on its own motion. The south-eastern part, including the long mountainous spur continued at the east end by broken groups of islands, in all some 86,000 square miles, was proclaimed British territory in 1884 under an

administrator and council appointed by the Crown. Before Australian Federation it was connected with Queensland, but is now treated as a dependency of the Commonwealth. The seat of Government is at Port Moresby, a gathering of some thousand people on a bay of the much-indented shore, where a few European buildings stand above the native pile-houses thickly packed at the water's edge. At the east end the hilly Samarai Island is another Government station; and to the west Yule Island has been occupied by Roman Catholic missionaries. Along this coast the pioneers of civilization have been devoted missionaries, to one of whom in particular, Mr. James Chalmers, a martyr in the cause, we owe much information on the state of the country, so far as accessible from the sea. By help of South Sea Island converts, brought here as teachers, the missionary stations have done a good deal to tame the barbarous people who at first received them with suspicion and treacherous hostility, in some cases naturally excited by the unchristian kidnapping of the "labour traffic", which, however, was not much pushed on the New Guinea shores. The natives seem beginning to recognize our government as designed for their good; and they are found willing to work for themselves, if not so readily for masters. The unhealthy and swampy character of much of the coast offers no very promising prospect to settlement; but in some parts rugged highlands come down to the sea, while inland there are noble mountains, rushing rivers, and grand scenes such as the Falls of the Laroki, said to be more than a hundred feet higher than Niagara. An attempt at gold-seeking on this river turned out a failure; but partial explorations have shown the natural wealth of a region that may be prosperously peopled by our grandchildren.

Photo. A. C. Haddon

A Bulaa (Hula) Native, British New Guinea

Our present ignorance of New Guinea as a whole is shown by vague estimates of its population from half a million to five times as much. These are of the Papuan stock, whose features have been already touched on. Here they show slightly tinged on the north-west coast by a Malay infusion of race and religion, and on the other side by Australian and Polynesian blood; but their general characteristics are well marked: tall sturdy forms, falling away a little in spindle legs, deep-brown or sooty-black skin, full features of a coarse type, often enormous shocks of thick frizzly hair, a noisy, lively disposition, and a good deal of energy which is not easily harnessed to steady occupation. They are feebly organized in for the most part small tribes, at constant quarrel with each other, and controlled rather by custom than by the chiefs to whom force of character or circumstances gives some kind of authority. Their main ingenuity is shown in the manufacture of weapons: bone- or stone-tipped spears and arrows, clubs, stone-headed axes and hammers, knives of stone, shell, or sharpened bamboo. A peculiar instrument of death is the loop of rattan which a pursuer

flings over a victim, jerking him back against a sharp spike in the handle that penetrates his spine. A sort of cuirass of plaited rattan has been noticed as another exceptional instance of ingenuity. Iron is much coveted, a strip of hoop-iron being the most valuable commodity that can be brought to market among such a people. Some tribes are the terror of their neighbours by the activity they show in murderous raids, with human heads for trophies; and cannibalism is sometimes practised. The religious instinct everywhere is little developed, seldom rising above respect for the clumsy sorcery of embryo priest-craft, dread of spirits and *taboos*, and the violent emotions of mourning that

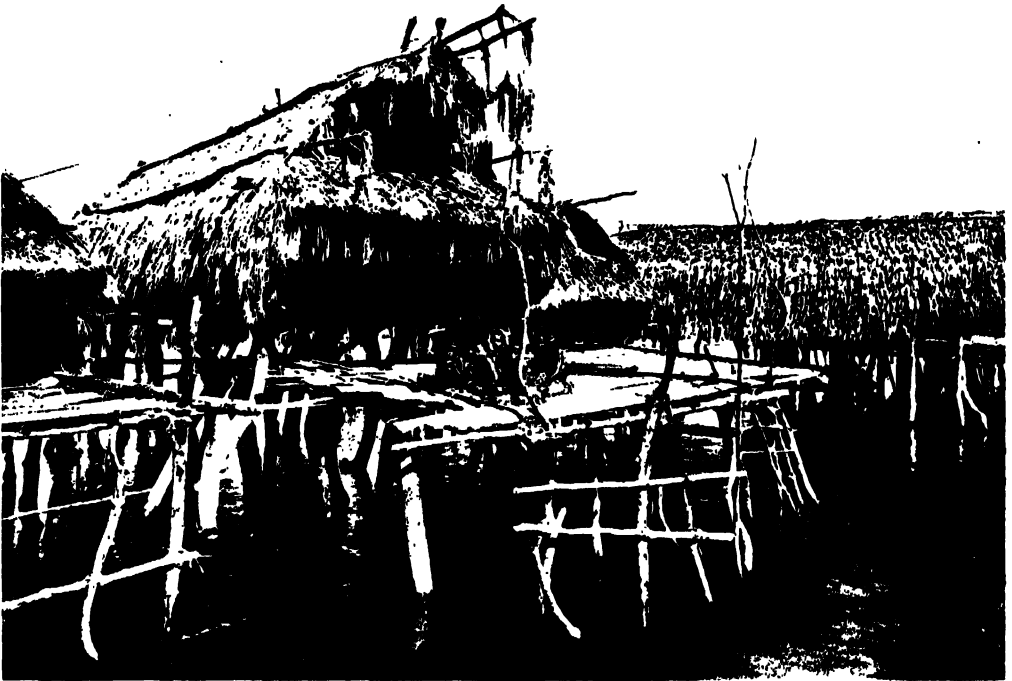



Photo J. W. Lindt

Chief's House, Marine Village of Tupuselei, British New Guinea

seem for a time to put bereaved ones in touch with an unseen world. A good deal of respect is shown for the dead, often preserved for years in a mummified form, and lamented by elaborate fashions such as covering the mourner's body with net-work, paint, or dirt. There is the usual savage indifference to human suffering, where cruelty to enemies almost counts as a virtue. White-skinned strangers are regarded at first with a mingling of curiosity and fear, which after a little familiarity will not protect them from being robbed and murdered, unless they can firmly establish their character as uncanny beings,[1] or by

[1] Most travellers find little good to say of the natives, unless when more than once an inland tribe has shown a friendly and peaceful disposition rare on the coast. Signor D'Albertis, the Italian naturalist, after trying fairness in vain, describes how he called in the resources of civilization to overawe the villagers who had robbed him. "I took a tin case which had contained petroleum, and loaded it with five dynamite cartridges of about two ounces each, and, closing it tightly, I carried it to a safe distance from the house and fired it. The detonation which followed was like the roar of a cannonade, and the echoes resounded for several seconds. I then let off rockets in the direction of the native houses, and illuminated my own house with Bengal fire; I also fired some dozen shots from my gun." The first effect of this demonstration was to set everybody to flight; then, next morning, the stolen goods were brought back by men

patient good-will win upon the suspicious wonder of the people, as missionaries have been able to do.

The rickety homes of New Guinea, like those of our Stone Age, are mostly built on piles, the roof often shaped like the bottom of a boat, the outside ornamented with cocoa-nuts, shells, or the skulls of slain enemies, while beneath may lie the corrupting bodies of friends kept affectionately not far from the family circle. Sometimes, to keep the inmates' heads safer on their own shoulders, these dwellings stand in the water or on the top of high trees, reached by a ladder. The chief men's houses may be used as places of assembly; and there are occasionally platforms or enclosures that seem to have a sacred character. Often the inhabitants are found pigging together in huge buildings containing a hundred persons or more, the men on one side, the women on the other; while the unmarried youths will be quartered in a separate structure. Sometimes such common homes are divided into compartments, like stable-stalls, in each of which a family keeps its fire always burning, not so much for warmth as to smoke out troublesome insects. Hammocks are much used, and net-bags made of jute or other fibre serve to carry about babies, food, and other belongings. As for dress, in some parts the people go without any, or next to naked, and in general are more concerned about decoration than decency. A strip of bark, softened by chewing, makes up into a sufficient costume, easily come by; or a still simpler one is supplied by bunches of grass before and behind. The women often wear a sort of grass kilt, the lack of upper garments being supplied by tattooing. The men are not so much tattooed, and the marks or scars on their bodies seem to represent some honourable exploit, such as the taking of a human head. A strange stretch of dandyism on the part of young men is binding their stomachs in an irremovable band, above and below which the flesh grows out; this must be a more dangerous practice even than our ladies' tight-lacing. Both sexes make disfiguring insertions in the nose and ears, a favourite ornament being a stick or bone stuck across the face like a moustache; and, when in full finery, they wear necklets, armlets, and leg-bands of shells, bones, and teeth, sometimes the relics of a slain foe or of a deceased friend; then they colour their faces with plumbago and other pigments, and deck themselves out with plumes, streamers, and variegated leaves, according to the local fashion. With the men, while they will be at great pains to eradicate the hair of the beard and on other parts of the body, the main point of pride is in their mop-like *coiffure*, trained and twisted into appalling masses, kept in place by a bamboo comb, and adorned by plumes of the cassowary, cockatoo, or bird of paradise, these head-dresses sometimes built up to a height of several feet. The women, in some parts at least, wear their hair cut short; but men who have lost theirs may be found supplying it by elaborate wigs. Skin diseases are common, perhaps caused by unwholesome nourishment, or a want of salt, which is greedily sought after by those who would spit out sugar in disgust. The chewing of betel, and the smoking of tobacco when they can get it, are as dear to the Papuan as to the Malay, but the use of intoxicating drink seems in general unknown here.

Women appear to be not kept in utter subjection; they enter into the doings of the community; occasionally they are found exercising power as chieftain-

trembling "like half-drowned dogs". With such displays of fireworks the explorer made his coruscating way far into different parts of the island.

esses; and their presence with a party is taken as a flag of truce. A remarkable institution is the seclusion of girls for years in their father's house or in a separate cage till they are old enough to "come out". Polygamy is allowed, but under the restriction of poverty, the young man having to pay for his wife. Both sexes do their share of work, which comprises a good deal of agricultural labour, their chief implement being the "digging-stick", its point hardened by fire that makes a primitive hoe. Round the villages are cultivated crops and fruit-trees, often fenced by a stockade against wild pigs, as the houses themselves may be against foes in human form. Pigs are kept tame, and a woman's affection for these domestic animals will even go the length of suckling a young pet. About the houses may be found a breed of half-wild dogs that express their pains of chronic starvation by growling and howling that cannot rise to an honest bark. On the sea-side the natives earn part of their livelihood by fishing, as by hunting in the forests; and though they are not enterprising navigators, they can make huge dug-out canoes manned by scores of paddlers or driven along by mat sails. For longer voyages several canoes, a dozen or more, are lashed together into a raft. A certain amount of trade is carried on between the tribes of the coast and of the interior; as, on the coast itself, the skilful potters of one district are found launching forth to exchange their ware for the sago that is the wealth of another.

Photo. A. C. Haddon

Native of Yule Island, British New Guinea, with shell money round his neck, and a shell ornament (Koio) on his chest

It is not easy to generalize on the manners and customs of a race so widely spread and so little known. Out of proportion to their advancement in other respects is the Papuans' turn for carving, in which they show considerable skill and patience on the ornamentation of their boats and domestic utensils. They have several musical instruments, one of reeds like the Pan-pipe, another exactly like the jews' harp, besides the drums and rattles that form the basis of savage melody. They are very fond of dancing, and at their noisy festivals will keep it up for hours to the thumping of these drums and the droning of a monotonous chant. Among their amusements, it comes as a touch of human kinship when we hear of the children whipping peg-tops or playing at cat's-cradle with string. When the boys grow older their most congenial sport will be sham fighting; but

the Papuan youngster begins life as a merry, impudent, and playful little fellow, not much awed by the dense forests that overshadow his home.

The climate of New Guinea is hot and damp, especially so at the north-west end; and most parts of the coast prove unhealthy. The slopes are covered with virgin forests, of much the same rank growth as those in the Malay Archipelago, huge trunks knit together by creepers, orchids, and thickets of fern; and almost as impassable as these jungles are plains of stiff grass growing several yards high. Towards the south, eucalyptus-trees and other Australian characteristics become more common. The cocoa-nut, the areca-nut, the pandang, the sago-palm still thrive luxuriantly, where insipid raspberries and strawberries begin to be found, as one rises on the inland heights. The coast swamps are fenced by slimy mangroves. Cotton and nutmegs grow wild. In the native clearings are cultivated bananas, sugar-cane, bread-fruit, tobacco; then the luscious fruits and grain crops of Malaysia are here largely replaced by tuberous vegetables, sweet-potatoes, yams, and taro. Of the timber in the forests, and other resources of New Guinea, it will be time to speak when this great island becomes more opened up. Of its exuberance explorers speak warmly, the German traveller, Dr. Semon, for his part declaring that he had nowhere seen "a similar harmony between luxuriant vegetation and rich animal life".[1]

To a naturalist the striking feature of New Guinea is its abundance in brilliant birds, the various species of the gorgeous Bird of Paradise—described in our account of the Lesser Sunda chain—being almost confined to this and the islands in its shallow seas. Besides many beautiful kingfishers, parrots, cockatoos, and pigeons, there are great birds like the crested pigeon, as large as a turkey, different species of the awkward and stupid cassowary, and of the heavy-headed hornbill, whose rushing flight, compared to the noise of a railway train, can be heard a quarter of a mile off. The butterflies and other insects are in their way as glorious as the birds. In ordinary mammals, on the other hand, the region is poor, this class being confined to pigs, dingoes, and mice; but it possesses such peculiar mammals as, along with smaller bats, the huge flying-foxes, that prey upon the fruit-trees, and the marine dugong, whose flesh tastes like veal. Marsupian animals are more common, among them the tree-kangaroo and its kinsman the shy wallaby. The curious spiny ant-eater finds plenty of game for its long tongue. Snakes, harmful and harmless, are plentiful, with all sorts of creeping and flitting pests. There is a kind of stingless bee that makes black

[1] "For once", says this eminent naturalist, "the primeval forest did in fact present the scene imagined by untravelled people. Here, indeed, the wood swarmed with birds, and resounded all day long with their different notes and voices. The river-banks were studded with mighty trees of glorious structure, which were almost covered with great blossoms of a lively red. These seemed to possess an irresistible attraction for the brush-tongued parrots, big parties of the brilliant *Lorius hypœnochrus*, and of several kinds of Trichoglossus, being seen to settle down among the foliage, wrestling amid loud shrieks for the access to the sweet nectar of the calyx, doing the wildest gymnastic tricks along the branches, and presenting a scene more frequently viewed in a well-furnished aviary than in wild nature. From the crown of the highest treesthe voices of the white and black cockatoos are continually heard; then, again, you see a specimen of the stately *Electus pectoralis*, resplendent in the green, blue, and scarlet hues of his feathery dress. Now a kingfisher is seen darting like an arrow over the surface of the water. Besides the genuine short-tailed halcyons and kingfishers, which feed on fish and water-fowl, these regions harbour a genus surpassing in beauty of plumage and elegance of form all the others, and which deserves to be called the king of kingfishers. . . . A sound we continually heard was the loud cooing and restless flutter of the fruit-pigeons, Carpophaga and Ptilopus, among the branches of the fruit-bearing forest trees. Many of these pigeons may well be compared to the most handsome parrots as regards splendour and brilliancy of plumage. On the whole, the Australian region surpasses all other countries on earth by the number of its pigeon species, and the conspicuous colouring of these usually insignificant-looking birds. The rich development and lively hue of the pigeons in the Australian region may be justly ascribed to the entire lack of monkeys, lemurs, weasels, and civets, *i.e.* to the absence of animals fond of eggs and young birds, and therefore particularly dangerous to so helpless a family as the pigeons, and to one so awkward and careless in the art of nest-building."

honey and red wax; and clouds of insects are food for fish and fowl. The crocodile, when it can get no more satisfying prey, is said to lie with its mouth open as a fly-trap, taking down some scores of flies at a gulp. On the coasts sharks also make bathing a fearful joy. Here are taken great turtle, and, among other shell-fish, clams that may measure nearly a yard long. The Papuans are usually good fishermen, if not such clever hunters as the Australian black-fellows, whose wits have been sharpened by a want of vegetable food.

The long south-eastern promontory of New Guinea breaks up at its point into sea-girt fragments, then is continued far into the Pacific by a maze of small

Photo. J. W. Lindt

The Haunt of the Alligator: Scene on the Laloki River, British New Guinea

islands known as the Louisiade Archipelago, several of them bearing names that record French maritime enterprise, but they now make British territory. The largest, whose name expresses its south-eastern position, is Sudest, about 45 miles long, with the bold mass of Mount Rattlesnake as its chief feature. Gold has been discovered here, as on Misima or St. Aignan, another rugged island of the group; but it was soon apparently worked out. The inhabitants are fierce savages, head-hunters, and often cannibals, who gain a good part of their living as fishermen among the rocks and reefs that make navigation adventurous, as well as islands of drift-wood floating the life of one broken fragment of land to another.

A French discoverer also christened the D'Entrecasteaux Islands, which are now marked red on the map, lying to the north of that mainland promontory that presents such truly British names as Collingwood Bay, Hardy Point, and Cape Nelson. The central and largest of this group, Ferguson Island, has an

area of about 500 square miles; rather smaller are Normanby and Goodenough Islands on either side of it. These contain grand volcanic scenery, rising in the last mentioned to a height of over 8000 feet, and are well peopled by head-hunting savages, who in Goodenough seem more disposed to peace and industry. To the north of this group is another, named the Trobriand Islands, forming fertile coral plains that support a population of some 20,000. To the east lies Woodlark or Mayou Island, also said to be well peopled, with which and its surrounding islets ends the British region of New Guinea.

The other Melanesian archipelagos may be grouped under separate heads: the Bismarck Islands, the Solomon Islands, Santa Cruz and the New Hebrides, and New Caledonia.

THE BISMARCK ISLANDS

With German New Guinea goes the considerable group of larger islands making a scythe-like curve off its east coast, to which their present masters have given the name of the Bismarck Archipelago, while the largest of them, hitherto known as New Britain and New Ireland, have been rechristened New Pomerania and New Mecklenburg. New Britain, or *Neu-Pommern*, is some 350 miles long, including the volcanic Gazelle Peninsula, almost isolated at its east end: then the channel between this and New Mecklenburg is partly bridged by the New Lauenburg group, the ex-Duke of York Islands. At the north end of that long, narrow New Mecklenburg lies the detached New Hanover, whose old name satisfies its new owners; and some way to the west, Admiralty Island with its outlying islets forms a separate group. Rook Island, nearer New Guinea, is separated from New Pomerania by Dampier's Strait, he having been the first navigator to find a passage here; then bit by bit the segregation of these masses of land became accurately established, the whole once believed to be projecting points of New Guinea.

Most of the Bismarck Islands are highly volcanic, many of the small ones being merely craters in the sea. The most violent energy appears to be about the peninsula at the east end of New Pomerania, where is a group known as the "Mother" and her two "Daughters"; and on the other side of this peninsula come the "Father" with his "North" and "South" Sons. Mr. Wilfrid Powell, to whose explorations we owe so much knowledge of this region, describes an eruption in one of the former family, giving some idea of how such islands are shaped. The commotion lasted for more than a month, bringing out a huge tidal wave that washed away part of another island. The channel was covered for a great distance with fields of pumice-stone through which a boat could hardly force its way; it was, said one of the natives, "as if the bottom of the sea had jumped up". In one night arose an island two miles in extent and seventy feet high, having in its centre a crater full of boiling water, a week after the appearance of which Mr. Powell found the ground too hot to stand on. The Mother mountain itself, which is extinct, being to the windward of the active crater, served him as an observatory. "Every few moments there would come a huge convulsion, and then the very bowels of the earth seemed to be vomited from the crater into the air; enormous stones, red-hot, the size of an ordinary house, would be thrown up, almost out of sight, when they would burst like a rocket, and fall hissing into the

sea. At the same time angry flames would dart up, almost to the altitude on which we stood, and of the most dazzling brightness. Then all would die down to a low, sulphureous breathing, spreading a blue flame all over the mouth of the crater, whilst over us and all the country near hung a panoply of thick black smoke, broken only by the falling of red-hot stones in showers, which destroyed all vegetation to leeward to a distance of about two miles."

Such eruptions are usually preceded by earthquakes that warn the natives to get out of the way. Yet often they must fly from one danger to another. These

Scene in New Britain: Natives Playing Cat's-Cradle — Photo. W. A. Lucas

people are, in general, bloodthirsty savages, for the most part naked cannibals, on the same level as those of New Guinea, chronically at war with their neighbours, and fiendishly cruel to prisoners, whom the women take delight in torturing.[1]

[1] Another scene depicted by Mr. Wilfrid Powell shows them in their most elevated mood, working up the volcanic passions that inspire their fearsome religion. "The tom-toms commenced to play very slowly, and the women, who were seated in front as orchestra, began to sing a weird kind of song, which I can only describe as a combined wailing of cats and dogs, which gradually got faster and faster. Presently one of the fires blazed up, and we saw some sort of creatures creeping out of the bush in all directions; they did indeed look like devils, which the word 'Toberran' signifies. Some wore masks composed of skulls cut in half, and filled in with gum to represent a human face; these are held between the teeth by a stick, fastened across at the back of the mouth of the skull; on their heads they wore long black wigs composed of cocoa-nut fibre, and their bodies are covered with dead leaves. Some that had no masks had their faces painted an unearthly green colour, and on their shoulders were fastened a kind of wings (on closer inspection I afterwards found these were actually fastened through the loose skin in the side of the neck). On came these unearthly figures, creeping from the bush on every side, some with tails, some with spikes all down their backs, all keeping step and beautiful time, no matter what position their bodies were in. Suddenly the tom-toms stopped, and all the Toberrans rushed to the centre of the open space with a fearful yell; then the music strikes up again, and there begins a dance that defies all description; heads there, arms here, legs one way, tails another, and yet in perfect unison, for if there was an arm one side there was a leg to correspond on the other. The shrieks and yells grew louder, and the singing became shouting; and as they dance the fires are lighted and blaze up, throwing a lurid light on one of the most hideous scenes it has ever been my lot to witness."

Slings are a characteristic weapon here; but the work of murder has gone on apace since the rude spears and stone axes of the natives began to be replaced by iron tomahawks and firearms, introduced through the traders that venture among them. For all their barbarity, they have a keen notion of bargaining, and use a shell-money of their own, strung in lengths like the Red Indian wampum. They also show considerable activity in agriculture, forced upon them by the scarcity of game, the fauna of these islands being much like that of New Guinea, though the Bird of Paradise seems to be absent here. On the coast they are skilful fishermen with nets, traps, and rods, and have a notably clever way of catching sharks in a noose, after luring them by rattling cocoa-nut shells together. Their chief crops are cocoa-nuts, bananas, yams, taro, and sweet-potatoes; they have also a fruit, like bunches of apples, which when ripe contains a pulp melting in the mouth; and another, the papaw, that, cooked in its early stage of ripeness, is like vegetable marrow, while the leaves and stalks, says Mr. Powell, have the useful property of bleaching clothes or making tender any tough piece of meat boiled with them. The principal export is copra, collected by traders, who, as well as the missionaries among these unpromising converts and customers, have often paid dearly for their enterprise; but through such intercourse the people are losing their native barbarity; and it seems a sign of progress that before a white man they show themselves unwilling to confess to cannibalism.

The taming of so fierce subjects is not a task we need envy the Germans. But Mr. Romilly testifies that German traders are of a higher class than many of ours, and the German authorities may be trusted to back them up forcefully. Before the Germans became masters here, a most unlucky attempt at French colonization was made in New Ireland by the Marquis de Rays, who at a place christened Port Breton, chosen apparently by chance, dumped down a shipful of people to die miserably of hunger and fever, if not drowned or massacred by the natives—a story of real life that probably suggested Daudet's *Port Tarascon*.

THE SOLOMON ISLANDS

These islands, after an interval of 500 miles of sea to the east of the Bismarck Archipelago, extend south-eastwards, in a double line, for over 600 miles. They were originally discovered by the Spaniards in the middle of the sixteenth century, and named after King Solomon through the vague hope of gold that made the bait of so much early exploration. For two centuries they had been lost sight of, coming to be treated as a myth, till rediscovered by Captain Carteret and the French navigators of the eighteenth century; but it is only in our own times that much could be known about them. There are seven large islands and many smaller ones, with a total area about double that of Wales. Of these Bougainville still belongs to Germany, which has transferred Choiseul and Ysabel to the British possessions, New Georgia, Guadalcanar, Malaita, and San Cristoval. For the most part they are mountainous and richly wooded, Mt. Balbi, in Bougainville, the largest and most northerly of the group, being over 10,000 feet. There are several volcanoes, active or extinct; but these islands seem not to be so fearsomely shaken as their neighbours towards New Guinea. They are, in many parts, much beset by reefs and shoals that make navigation about them

more difficult for European vessels than for the large canoes of the coasts, in which, with slaughter as a loadstone, war-parties will push their raids a hundred miles or so from home.

The inhabitants, estimated at about 175,000, bear a specially bad name for ferocious inhospitality, though D'Urville, one of the first modern voyagers who came in contact with them, formed a higher opinion of their character; and Dr. Guppy, to whom we chiefly owe our recent information here, has no complaint to make of ill-will shown to him personally. For enmity to white men, indeed, they have had some reason in the kidnapping raids of the labour traffic; but among

Photo. Beattie, Hobart

Women of Port Adam, Solomon Islands

themselves they are no more friendly, one village being often at war with another a few miles off. Head-hunting, slave-catching, and man-eating are their most earnestly cultivated arts, yet with this barbarity goes a singular degree of agricultural industry, and a readiness to trade with, if possible to cheat, the white men who bring them more efficient weapons. What has been said in the last section applies generally to the natives of the Solomon group; but the latter show a stronger strain of Polynesian blood modifying their Papuan characteristics. Cowardly as well as cruel, they have learned a certain respect for white men through the reprisals of ships of war for the massacres by which they were wont to welcome strangers. Mr. Walter Coote highly praises their talent for carving, shown specially in the gondola-like canoes, which are also richly ornamented with shells. He declares their long spears the finest weapons of the South Seas, and found some of the houses resembling "the poorer châlets of Switzerland". These are often elevated on platforms, above the swampy soil; sometimes, as protection

against enemies, they are perched loftily upon trees, reached by a swinging cane ladder twenty yards or so long; or the ill-neighboured people entrench their dwellings upon rock fortresses.[1] Mr. C. F. Wood was astonished by carved human figures forming the posts of long canoe sheds which seemed the chief public building of a village, in which also were stored wooden gongs for summoning the tribe to feast or fray, carved bowls and huge mortars for pounding food, and, among a great collection of bones, the human skulls that are their dearest trophies.

Among strictly domestic utensils, they have clay cooking-pots, cocoanut-shell drinking-vessels, plaited fans, and palm-leaf mats. Their clothes cost them little; but they make a brave display of shell and pearl ornaments, and show an idyllic taste for decorating themselves with flowers and leaves. They are proud to acquire articles of cast-off European clothing, which they turn to unintended uses, either keeping a shirt to display on special occasions, or wearing it night and day till it drops to pieces. The hair is often stained to a light colour by lime, and the skin adorned by scarring rather than tattooing, which in the case of women sometimes takes an artistically delicate form. They are the darkest of Melanesians, so black that coal would make a white mark on them, as sailors say. Their naturally not so bad looks are spoiled by a kind of ringworm and other skin diseases common among them; then they are found liable to influenza and mumps, the latter probably introduced by intercourse with white men. All diseases are little helped by the cheating quackery of the medicine-men, who make the nearest approach to a priesthood, doing a thriving trade in charms and curses, as well as professing to conjure the weather, which in these islands is excessively wet.

The tribes live in villages, under hereditary chiefs, who, sometimes by wealth, cunning, or martial prowess, are able to extend their power over neighbouring communities; but more commonly each preserves a truculent independence. The "tambu-house" of a village is its public hall, bearing also a certain sacred character. In the woods around, perhaps at a considerable distance, if left in peace by their enemies, they cultivate sago, taro, bananas, cocoa-nuts, bread-fruit, yams, gourds, sugar-cane, and other crops. The tender tops of young palms enter into their dietary, also various nuts, as those of the kanari-

[1] Mr. C. M. Woodford, who spent some time on Guadalcanar, which he describes as the richest of the islands, where the people appear to be less intractable, gives us in his *Naturalist among the Head-hunters*, this picture of a native interior, which presents also some hint of outdoor occupations "The corner of a large house close to the landing-place was assigned to me during my stay, which I was to share with about a dozen men and boys, my corner being partitioned off by a piece of string; and though, whenever I was at home, an inquisitive mob of natives were constantly watching me and remarking to one another upon my every movement, no one ventured to intrude beyond the string or to touch any of my property. In this corner I arranged my appliances for bird-skinning, and as I had brought some candles with me I was able to work at night, for the natives use no kind of lamp to light their houses after dark. My food consisted of cooked yams, and fish was brought to me morning and evening. My bed was a dirty pandanus-leaf mat spread upon some logs laid side by side upon the bare ground; and each of the other occupants of the house was similarly provided, the beds or bunks being ranged in a line down each side of the house, the feet of the sleepers almost meeting in the middle. By the side of each sleeper was a small fire of wood (although the nights in the Solomons are very warm, and I never registered a lower night temperature at sea-level than 74° Fahr.). The smoke from these smouldering fires makes it extremely disagreeable to pass the night in native houses. But, from long experience, I have at length become somewhat accustomed to it. The bunks are sometimes so horribly dirty that I have, on more than one occasion, when travelling with the natives in the bush, preferred to lie down among the white ashes of an old fire rather than upon the uncomfortable logs. The house which I am describing was about fifteen feet wide by forty feet long. Simply a sloping roof of sago thatch. At night the narrow window-like doorway was barricaded from the inside, and no one left the house till daylight. Sharp-pointed stakes are stuck obliquely in the ground outside to offer an obstacle to the approach of enemies in the dark. As I sat in my corner I could see, by the light of my candle, the natives lolling in all sorts of easy and uneasy attitudes on their respective bunks. Above each man's head, the handle stuck into the thatch, where it would be in a moment within reach of his hand in case of necessity, was his tomahawk, while his wicker-shield was close by. In racks above my head were dozens of spears, some of them only sharpened sticks, others elaborately decorated and carved and cruelly barbed with bones from the wing of the flying-fox."

palm that have been named Solomon Island almonds. When it can be had, they eat fish and the flesh of the animals found on these islands—pigs, opossums, crocodiles, lizards, bush-hens, &c. The natives assert that man-like apes may be found in the woods; but this wants corroboration. Among the curiosities of animal life here are enormous rats and frogs; a crab that eats cocoa-nuts, and has been said to climb trees for them; and a tiny bee whose almost liquid honey is used as a drink. The chewing of betel, universal in this part of the world, was once the Solomon Islander's only stimulant; but through white men they have learned to be inordinately fond of smoking, almost from their mother's breast. Tobacco is the main currency used by the traders, along with clay pipes and wax matches. In some parts an elaborate native currency was found in use, with cocoa-nuts answering to coppers, strings of shell beads to silver, and dog's or porpoise's teeth as the most valuable coin. It is still but a mere handful of white men who live scattered through the islands, most of them with an influence so demoralizing that at one point the Melanesian mission station had to be withdrawn in despair.

Photo. Beattie, Hobart

Natives and Native Teacher, Port Adam, Solomon Islands

Dr. Guppy, who inclines to hold these shock-headed islanders not so black as they are painted, declares that the only redeeming feature of their intercourse with white men for a quarter of a century has been the heroism of the missionaries who laboured to win them from savagery, it is to be feared with little result. Many of them came into touch with civilization under less favourable circumstances, carried off, either by their own consent or without it, to serve a term of labour in the Queensland or Fiji plantations. These emigrants often died from home-sickness, or, to put it gently, unfamiliar conditions of life. When they came back to their country, along with a stock of English oaths, they brought part of their earnings in the shape of muskets, axes, and knives, also

supplied by the traders; then, if landed a few miles from their own village, their welcome so near home was as likely as not being killed and eaten. Thus it becomes a question whether the work of taming the rude Solomon Islanders will keep pace with the effects of putting in their hands more deadly means for mutual extermination.

SANTA CRUZ AND THE NEW HEBRIDES

Two hundred miles east of the Solomon Islands lies the Santa Cruz group, some dozen volcanic islets, with a labyrinth of coral reefs, which have also been christened the Queen Charlotte Islands. The largest, Santa Cruz, is only some 16 miles long. The Papuan-Polynesian inhabitants are enterprising sailors and fishermen, as one might expect from their narrow bounds. Also they are fierce cannibals, best known by a series of tragedies that have marked their occasional intercourse with the world. Among these islands died Mendana, the sixteenth-century discoverer. Their rediscoverer two hundred years later, Captain Carteret, was attacked by the natives. La Pérouse, the French Captain Cook, was here wrecked, relics of his two frigates being discovered many years afterwards. Here, in our own time, Bishop Patteson and Commodore Goodenough were murdered. Yet traders are found ready to trust themselves among such treacherously truculent islanders, who have a childish taste for bright-coloured wares, shown in the long belts covered with scarlet feathers that pass among them as money.

The New Hebrides Islands, two hundred miles to the south, had much the same ill-reputation; but of late years many of them have been tamed by missionary efforts, bringing about altered conditions of life that, as well as the drunkenness and diseases introduced by other visitors, are said to be killing off the inhabitants, who at one time were calculated at 85,000. They also have been brought into relations with the white men by the Queensland labour traffic, for which this archipelago was at one time the chief recruiting ground. Its volcanic islands, extending for hundreds of miles, were at first christened the Holy Spirit group, then the New Cyclades; but the name that has stuck was given them by Captain Cook. At the north end come the Banks Islands, hit upon by Bligh in the perilous voyage forced upon him by the mutineers of the *Bounty*, and named after Sir Joseph Banks, Cook's companion, who did so much to promote South Sea discovery. Espiritu Santo, about eighty miles long, is the largest of the islands, among which Vaté or Sandwich is known for the settlement of Port Vila, upon a natural harbour, and Ambrym for an enormous volcanic crater, which may turn out to be one of the largest in the world, but the superstitious natives shrink from guiding explorers to its fearsome wonders. Another violent volcano makes the chief feature of Tanna, one of the southern islands, on which, as on its neighbour Erromanga, the missionaries have gained a footing; and on Aneiteum, the remains of a once much larger population appear to be all converted. Mallicollo is hardly yet explored.

Most of these islands are mountainous and thickly wooded. Copra is their chief natural product, and next to this sandal-wood, which, as elsewhere, appears to be growing scarce. Port Vila is the trading centre. French settlers, who are increasing in number, have started plantations of coffee, sugar-cane, and

sago; and with less success Australians have tried to introduce sheep on one of the islands. The French have made motions towards mastery here, strongly resented by the Australian colonies. At present France and England are able to agree in a sort of joint protectorate over the archipelago; but the British who have business in it look askance on the operations of a French company, subsidized by the French Government, and suspected of having as much a political as a commercial design. It would be only natural if the French sought to spread

The Feather Money of Santa Cruz

Photo Beattie, Hobart

their influence from the neighbouring colony of New Caledonia, where Australian patriotism is unwilling to tolerate them unless as "caretakers". In the meanwhile the colonial John Bull finds comfort in noting that the bêche-de-mer jargon, the "pidgeon" of the South Seas, is based upon English rather than on French, and that the natives profess to be less unfriendly to us than to the "*oui-oui* men", a point on which one would like to compare French reporters. There are at present about 300 French and 200 English people on the islands, under a Commissioner of each nation, whose neutralized influence keeps one another in courteous check.

NEW CALEDONIA

This, with its insignificant dependency the Loyalty Islands, south of the New Hebrides, belongs to France, and has been used as a penal settlement, which makes an eyesore to Australia, while frequent escapes of convicts to its

shores, 800 miles away, have given rise to international friction. New Caledonia is also notable as rivalling Canada in the world's supply of nickel. This line of gaunt, gloomy mountains, enclosed by a fence of coral reefs and sand-banks, is 250 miles long by about 35 broad, shows several peaks rising to over 5000 feet, and affords room for one river-course of nearly 100 miles. Discovered by Captain Cook, and given up by the British as worthless, it has proved rich in minerals, including coal, copper, and nickel, all profitably worked. It has some fine timber; the Australian gum-tree and valuable pines flourishing near mangrove swamps, also gigantic banyans, rapidly-growing sandal-wood, and the iron-wood whose stems sigh like an Æolian harp in every breeze; but the dominant tree appears to be the ungraceful *niaouli*, whose crooked trunk makes excellent building material, while its stiff bark is turned to various purposes. To the native crops, maize, yams, and taro, the French have added sugar-cane, cotton, coffee, wheat, tobacco, &c.; but the soil is on the whole so poor that for vegetables and other supplies the inhabitants have depended much on Australia. Some parts, however, offer fruitful valleys and good grazing lands. Cattle appear to thrive on the island, which has a scanty indigenous fauna of rats, bats, huge owls, with crabs, locusts, mosquitoes, and other pests. The climate is said to be healthy, drier and cooler than in other parts of Melanesia; yet the sun must be very trying, if, as M. Rochefort declares, the shallow water on the shore was unbearably hot for bathers, who, swimming farther out, found the skin scorched off their necks and shoulders.

All the drawbacks of the colony have been set in relief by the ill-fame of a penal station that scares away free settlers. After the Commune, thousands of insurgents were deported to this island, of which, when released on an amnesty, they naturally brought back no inviting account. The ordinary convicts are arranged in classes, with different degrees of freedom according to their sentence and conduct, the highest class being practically free but not allowed to return to France till after a period of probationary exile, and these seem to be the chief planters; while the lower classes are kept to forced labour on public works. Though closely guarded, they have frequently carried out attempts at escape by getting possession of boats and boldly launching out to sea, or, as in the case of M. Rochefort, bribing the captain of some foreign vessel to stow them away for the voyage to Australia. Some, on this adventure, have fallen victims to the sharks that are more vigilant keepers than the gendarmes; others, escaping to the interior, have fared ill among the native tribes, who could choose between feasting on a runaway or earning the reward set upon his head. These islanders, some 60,000 strong, originally proved hard to conquer, and at one time rose in fierce rebellion; but they seem now in the way of extermination, sullenly refusing to make friends with the foe they cannot resist by their savage warfare.

The white population numbers 20,000 or so, including convicts and soldiers. Of these, nearly half are concentrated about the chief town, Noumea, a good harbour near the south-east end of the island. "It is twin sister to Port Said," suggests Mr. Coote as the most unflattering comparison he could hit on. "Noumea, blinking in the sunlight—Noumea, sunburnt, scorched, dried up—great Heaven! what a place for light-hearted Frenchman to come to! And yet they are here, surely enough. At the bars drinking syrups, and in the saloons playing billiards, and at their little shop-doors. . . . The women, too,

tripping up the street and sitting in their shops are no less unmistakable—so daintily shod, so neatly dressed, with such good figures and bewitching airs. They all seemed out of place, though, men and women too, with their bowing and shoulder-shrugging and hat-raising and energetic conversing; the tropical sun and the shadeless, long, unlovely streets seemed unsuited to them." Britons,

Cascade in the interior of New Caledonia. (From a photograph.

too, may be seen here, much of the local shipping being in their hands; then, as a patch of strange colour, among the convicts appear Arabs in fez and *burnous*, exiled from far Algiers. The island of Nou, off Noumea, has been used as a specially-secure confinement, from which, however, many convicts have escaped by swimming. From Noumea a railway is being pushed on to other settlements.

On the other side of the island is Kanala, centre of the workings of green nickel, which, found along a considerable stretch of this coast, supplies what seems as yet New Caledonia's most valuable product. The mines partly belong

to foreign enterprise, and they are, or at one time were, worked mainly by Cornish miners, the rough labour being largely done by Japanese or by Kanakas recruited from other islands. The natives, industrious enough on their own account, will not work for their French masters, who appear to treat them, though firmly, considerately enough, without thawing their resentment. They are a powerful naked race, not ill-looking for Papuans, and more skilled in the arts of war than of peace. They have, however, plantations of yams, taro, sugar-canes, &c., and keep half-wild pigs about their villages, where the towering conical roofs of the chiefs' houses are conspicuous objects, adorned often with grotesque carvings. Another striking sight is the groves of gloomy pines, in which among rocks and tangled bush they lay their mat-wrapped dead, with yams and cocoa-nut shells of water hung above them for refreshment of the exiled spirit. Catholic missionaries have had only partial success in winning them from their native superstitions; and still their great festal gatherings are for the "pilo-pilo" dances, that exhibit their ferocity in a most gruesome light.[1]

The Loyalty Islands, lying to the north, low and flat masses of coralline rock, on which a wrinkled fold, fifty feet high, counts for a hill, seem to be of no great value to the French. Their once-naked-and-cannibal inhabitants have been largely tamed by both Catholic and Protestant missionaries, though these have introduced a new cause of feud. The people are also noted, even among the amphibious South Sea Islanders, as good boatmen and swimmers. To the south-east of New Caledonia is the Isle of Pines, used as a prison for the worst class of convicts, though it has a better climate than that of the main island. What has been said as to convicts may soon be read in the past tense, as for some years back France has sent out no fresh cargoes of the kind; and it is hoped that this colony will cease to be a penal settlement, much to the satisfaction of its Australian neighbours.

[1] M. Jules Garnier (*Océanie*) was able to "assist at" one of these appalling dances. "It was in mid-darkness of a moonless night: at first the eye made out a great moving mass, from which escaped now whoops, now queer chants full of varied expression of melancholy, of joy, of grief, of anger, of fury, accompanied by the dull striking of bamboos and round pieces of bark clashed together, by the panting and wheezing in cadence of the dancers, by the guttural cries and howls of the warriors. . . . Then shone out some niaouli torches and let us have a glimpse of hundreds of naked bronze figures, blackened and tattooed, dancing in a ring, brandishing in time their clubs, tomahawks, or spears. What was the meaning of these songs that lit their eyes with such a terrible gleam? And what are these harpy-like hags about, who, holding torches, run with superhuman rapidity round the circle? For the moment they are silent as ghosts: the savage man speaks, the woman holds her tongue. . . . The exciting effect of these festivals on the Kanacks must be very great, since they can keep up such fatiguing dances for days and nights without taking nourishment. If, as we watched them, they had drunk any stimulant, this might explain their long fit of exaltation. But, in spite of their continued fast, towards the end of these scenes their howling grew to a diabolic pitch, and the dancers stamped and bounded in a way that would have tired out white men's muscles after a quarter of an hour. Then it is, they say, that in the middle of the ring the unhappy victims of their repulsive passion are killed, to be devoured while their flesh still quivers, feasts followed by orgies of which the frame is that hedge of howling and stamping fiends. A real likeness of the scene could be reproduced only by artists familiar with the infernal visions of Dante."

MICRONESIA

The South Sea Islands is a somewhat vague name, handed down from the days when their number and extent were little known. A geographical purist will prefer the general title Pacific Islands, since the groups south of the Equator are hardly to be distinguished from those to the north of it. It is not easy to mark off boundaries on such a large portion of the earth's surface, inhabited by different but blended stocks, their homes often widely separated by great stretches of sea, or again almost joined by shallows and uninhabited reefs. The best division, chiefly on ethnographic grounds, seems to be into three main regions, Melanesia, Micronesia, and Polynesia, some parts of all of which might be treated as intermediate links.

The most common characteristic of the Pacific Islands is a coral formation, with volcanic force often fearsomely intruding. We know how coral, like our own chalk cliffs, is the work of tiny submarine creatures that, working by myriads, in the course of ages build up masses of solid rock out of the carbonate of lime which it is their life-function to transform. The coral polyps live only in warm seas, at a certain distance below the surface; and in their task of building up to it they are probably aided by upheavals of the bottom. A coral island seems to be based upon a submerged protuberance; and when it reaches the sea-level, it may in turn be shaped by subsidence. Coral structures are found growing as reefs, which usually take one of three forms. A coral island will be belted round with a fringe of reefs, sometimes closely, sometimes a few hundred yards off. According to Darwin's theory, not received without question, the sinking of the inner land may place its fringing bank in the isolated position of what is called a barrier reef, like that great one which makes a breakwater for the north-east corner of Australia. Where a whole island has subsided, or all but the highest points, its belt of coral is left in a ring, the frequent form known as atoll, a rock-girdled lagoon perhaps containing a group of small islets.

In whatever form, the submarine reef has its chance of one day becoming dry land, when, exposed by the ebbing tide or by an upheaval of its base, it gathers fragments of ocean drift upon the sand into which its rough edges are ground; and thus gradually becomes skimmed over by soil where wandering seeds take root, to make it a home for man after having been long inhabited by shell-fish, insects, and birds. A coral island is often so low, that at a little distance it seems a grove of cocoa-nut or pandanus trees growing out of the water, while atolls have been well styled "garlands of green in an ocean of blue"; but R. L. Stevenson more prosaically compares their slightly elevated rims to a canal tow-path. Another striking feature is the ring of surf that

lashes with incessant din upon their natural breakwaters, here breaking into clouds of snowy smoke, there exploding like shells in puffs of white spray, again spouting in tall geysers through submarine blow-holes, or curving over a broad reef in graceful sunlit waves. In a fringing or barrier reef will occur clear openings, almost always opposite the mouth of a stream on the land behind, which either sweeps a passage for itself or drives back the coral polyps into their native salt-water. The atoll belts, too, have usually breaks, making them an imperfect circle, a horse-shoe, or a mere chain of broken banks, that seem shaken to their foundations by the thud of every surf-swell upon the soft coral beach.

A coral sea naturally requires cautious navigation, best piloted by a look-out from the cross-trees to trace the passages through broken water marking the lie of the reefs. Where clear, the water takes on beautiful tints, light or dark, according to the depth or the character of the bottom; looked down on from a height, the reefs may show rainbow hues shot beneath the surface, "browns and golds blending with pale aquamarine and sparkling emerald, while turquoise and cerulean pass into delicate lilac and purply blue". The coral itself, as it comes to the air, is colourless and dull, but by the sun will be bleached to whiteness on the many beaches of the Pacific. The reefs, with their show of brilliant shells and sea-weed, may be explored at low-tide, but this needs picking of steps, since the rough edges, and the prickly creatures that bask upon them, sometimes cause painful wounds, a poisonous quality even being ascribed to the coral in a certain state. It is underneath the water that fissured and branching masses of live coral take the shapes and hues which have suggested the name "Coral gardens".[1]

Having already had passing glimpses of this fairyland, we now come to a region that owes its existence, more than any other part of the earth, to coral structure. North of Melanesia, chiefly between the Equator and the tropic of Cancer, the Western Pacific is dotted by groups of countless islands which can be included under the name Micronesia. The common character from which they took this name is smallness and insignificance, most of them being low atolls, a mere rim of coral upraised so as to contain an interior lagoon.

The Micronesian population is more blended than that of Melanesia. The base of it may be a pre-historic stock, to which has been given the name Indonesian, but this could not fail to become recruited or displaced by adventurous Papuans, Polynesians, and Malays, as well as by Chinese and Japanese sailors often shipwrecked on the ever-growing reefs. With Europeans, too, these

[1] Drifting in a boat over translucent hollows one can look down among the gorgeous and fantastic submarine marvels so often described, as thus in that lively work, *South Sea Bubbles by the Earl and the Doctor*, Lord Pembroke to wit and Dr. George Kingsley, brother of Charles, and father of Miss Mary Kingsley, who turned the family pen upon West Africa: "The beautiful coral, with its mysterious caves and fissures, from which you almost expect to see real water babies appear; coral, some of it like great crimson fans woven from the most delicate twigs - some of a beautiful mauve or purple—some like miniature models of old gnarled trees—some like great round mounds of snow-white ivory, chased and carved with a superhuman delicacy—some like leaves and budding flowers—while all about are scattered magnificent holothuria and great red and yellow star-fish, that look as if they were made of leather, with horn buttons stuck all along their feelers for ornament; and echini, with their dense profusion of long brown spikes, covering them so completely as to make an unlearned person like myself wonder how they can get at their food or mix in society. Still more beautiful when they are dead and their spikes are gone, and nothing remains but their round white skeletons, splendidly embossed in long lines with purple and pink knobs. Fish of every shape and colour swimming lazily in and out of the black-looking caves and fissures, or coasting round the overhanging edges of the coral precipices. Some of the finest cobalt blue, some golden, some pink, some more like beautiful orange and purple butterflies than natives of the sea, with long white rats' tails, swimming or floating frontways, sternways, sideways, with apparently equal ease and partiality. Some variegated like harlequins; many, not with their hues more or less blending into each other where they meet, like Christian fishes, but mathematically divided by regular distinct lines, as if they had paid for their colours, and had them laid on by the square inch."

A Coral Reef at Low Tide. From a photograph.

islands have been long in touch through the Spanish, Portuguese, and Dutch colonies of Malaysia; some of them were infected by outcast rascality of the buccaneer type before the navigators of the eighteenth century gave a new continent to civilization. Their useful productions are much the same as those of their Papuan neighbours, while on some eastern islands the durian and other fruits of Malaysia have been introduced with success. The climate, as we might expect so near the Equator, is generally warm and equable. The Micronesian islands are known to traders, whalers, and missionaries; and if the rest of the world hears little of these scattered archipelagoes, their wide extent requires some mention, which, as to their ethnography, may be supplemented by our fuller account of the Melanesian and Polynesian features here forming a tangled medley.

It would be impossible to give a catalogue of these often nameless and uninhabited islands, and tedious even to go over all that have a name and place in maps. We must be content with an outline sketch of the chief groups, occupied or exploited by civilized governments, among which is soon probable the appearance of Japan, whose southern dependencies already almost merge into Micronesia. The greatest share, including the Pelew, the Caroline, and the Ladrones groups, till lately belonged to Spain, held as outposts of her Philippine possessions. But after the conquest of the Philippines by Uncle Sam, these smaller islands lost their value to an unprogressive power, and have been sold for £837,500 to Germany, which seems to cherish designs of stepping on to a richer if not wider colonial empire in the Eastern seas. With the Bismarck Archipelago and part of the Solomon Islands, they now make part of the German New Guinea Protectorate. The political mastership of this empire followed the enterprise of its traders, who here have taken a lead, while the quasi-civilization of these islands was first due to American missionary efforts, working upon them mainly through the agency of Hawaiian converts. Into the same field, later on, came German and Swiss missionaries, who found special difficulty in the manifold dialects of their flocks, and in the shiftings from island to island, pressed by want of food upon these marine nomads, some tribes, indeed, having two island homes for different seasons.

The Pelew or Paloo Islands, at the south-west corner of Micronesia, lie only a few hundred miles from the Philippines, the largest of them 30 miles long, swelling up into a mountain, among some score of others scattered over 200 square miles. They were discovered at the end of the seventeenth century; then a century later came into note through the shipwreck of the *Antelope*, whose crew met unexpected kindness at the hands of the people, and formed such friendly relations with them that a native king's son, the once celebrated "Prince" Lee Boo, was sent home to England, where he showed a most promising disposition, but unfortunately died of small-pox, and lies buried in Rotherhithe churchyard. Mariners of our time have not so much good to say of this people, who seem degenerated through a century of intercourse with Europeans. But, indeed, the *Antelope* crew's experience may have been exceptional, as, seventy years before, Jesuit missionaries, landed on the group, were silenced by the simple process of massacre.

The Pelew group is sometimes reckoned as belonging to the Caroline Islands, which, with this addition, stretch for 1500 miles from west to east, hundreds in number, their total population estimated from 20,000 upwards.

Before her recent misfortunes, Spain strongly resented a German attempt to gain a footing here; but she has now been fain to give up her nominal lordship over a region whose trade for some time back was passing into the hands of Germans. The principal centres, going eastward from the Pelews, are Yap, which was the first station coveted by Germany; Ruk or Hogoleu, in one sense the largest island, since it consists of a ring of coral 150 miles or more in circuit, enclosing a group of islands set in a vast lagoon; Ponapé or Ascension Island, perhaps the most important of all; and the picturesque and productive Kusaie or Strong Island, head-quarters of the American missionaries, who strive against the demoralization introduced by so-called Christians. These latter two, and three or four others, are high volcanic islands, the rest being of the usual coral formation. The inhabitants, if not always very friendly to foreigners, were, on the whole, a somewhat superior race, showing skill in boat-building and navigation, acquainted with pottery, hand-loom weaving, and the use of tools, not so grotesque in their ornamentation as the savage Papuans, and preserving customs and traditions of a dim past. Their civilization at one time appears to have been on a higher plane, to judge by the stone ruins found on some of the islands, notably on Ponapé, where columns, prisms, and boulders of basalt rock show the outlines of massive structures, choked up by vegetation and shunned by the superstition of the people. The purpose and the builders of these forgotten monuments are a mystery, for they imply a skill and intelligence which have long ceased to be native in the Pacific. Another puzzling point is the enormous masses of aragonite, used as money on the island of Yap, where a rich man's treasure takes the form of millstones. These *immeubles* are imported from the Pelews, whose people, for their part, use as money, prisms of terra-cotta, coming no one knows whence.

The Ladrones or Marianne Islands lie to the north of the Carolines, cut off from them by one of the deepest bottoms of the Pacific Ocean. They were discovered by Magellan, and got their first name, *Robbers*—one earned by other groups of islands,—from the loose ideas of the natives as to *meum* and *tuum*. Here also are remarkable stone ruins testifying to a vanished state of culture. From these no comparison can be drawn with the robber-stock found on the Ladrones at their discovery, since it has been entirely exterminated, and some of the islands re-peopled by natives of the Philippines, the Carolines, and other once Spanish dependencies. The whole population is under 10,000, chiefly gathered on the southern and largest member of the group, Guam, at whose little capital, Aganya, a handful of Spaniards felt themselves truly exiles in one of the least visited parts of the world, which, in fact, was used by Spain as a kind of petty Siberia. Guam has been kept by America as spoil of her victory, while the rest of the group is now German, Saipan, the next largest island, being taken as the seat of government. These and others at the southern end are low, of coralline formation. The chain stretches northwards for 500 miles in volcanic and rugged rocks, some of them still active craters, most of them hardly, if at all, inhabited, though they are naturally rich and well wooded. The climate, warm and equable, cooled by frequent showers, begins to show the effect of approach to temperate latitudes, and these might be called Fortunate Isles but for volcanic convulsions and destructive typhoons.

The Marshall Islands, east of the Carolines, were an older German possession, occupied since 1885. Some thirty or forty atolls, with reefs and islet satellites, are

distinguished as forming two parallel chains, called Ratack on the east side, Ralick on the west. The population has been put at 10,000, but seems to be decreasing. There are under a hundred white men on the islands, about half of them Germans. Jaluit is the seat of government and of trade, chiefly in copra. While administered by German officials, the Marshalls belong to a "Jaluit Company", whose pretensions to commercial monopoly have roused much heart-burning in Australia, recently involving our government in a controversy with Germany.

These low coral banks are not so productive as the Carolines, though they have rain on most days in the year; and their natural poverty increases as they stretch northward, where, however, a less genial climate forces the natives to more careful cultivation. The cocoa-nut and screw-pine or pandanus are kings of a flora that numbers only some three-score species; the bread-fruit grows in the south, but dwindles in the northern islands. Still poorer is the fauna, all creatures of any size, and even rats, being colonists from Europe. But the seas abound in marine life, from whales and dolphins to a kind of sardine, which at certain times swarm into the lagoons, their approach watched and joyfully proclaimed from palm tops, as by the Cornish *huers* the shoals of pilchards with their hovering escort of sea-fowl. Between their spells of planting and fishing, the islanders are very ready to make war on each other, carrying on their campaigns with more noise and excitement than bloodshed, especially since the introduction of firearms has made them all the more cautious about coming to close quarters.[1] Importations more fatal among them are gin and European vices, corrupting their own manners, which, with their native religion, are on Polynesian models. These islanders may well have come from a distance, as they still have a notion of chart-making by means of bamboo rods, that mark the direction of ocean currents, with shells or seeds tied on to the joints to represent the separate islands.

South of the Marshall group, the Gilbert and Kingsmill Islands, sometimes styled the Line Islands from their lying on the Equator, have been recently

[1] In the *Gartenlaube*, Herr Otto Finsch gives an amusing account of a war between Kabua and Loiak, kinglets of two neighbour isles. "Twenty big canoes, thickly packed with men, sailed up in a long row, or rather sailed by, as Loiak for his part did not risk an attack, but landed on the north end of Jabwor. The enemy's advance was, of course, momentarily awaited. In fact there soon appeared in the wood below the village a few suspicious figures, doubtless skirmishers or spies; and Kabua gave the word for attack. As beseemed his high rank, he led the van with praiseworthy courage; his faithful people followed him, not only the warriors, but all and sundry; for the Marshalls' laws of war exempt from service only babes and the bedridden; the rest, from boys to imbecile old men, have to take the field The setting forth of this motley arrayed and adorned host was indeed very picturesque, and made the one remarkable incident of the whole war. Of course the troops marched neither in columns nor in sections, but each for himself in long goose-rows, here and there forming groups, mostly of women and girls, who made up the larger part of the army, its masculine kernel, youths and cripples included, counting some hundred heads. Kabua himself was not surrounded by a body guard of his braves, but four of his wives escorted him, and the warriors came straggling on a good way behind. As in earlier wars, the women accompanied their husbands. Now it was no longer sling stones they carried in baskets, but cartridges, powder, lead, as well as refreshments, cocoa-nuts, rice, shells of water, gin and other bottles, among them hair-oil and that American remedy well known and esteemed in the South Seas under the name of 'painkiller'. For the wounded, too, was provision thus made. Most of the men were armed with guns; some had revolvers and pistols; but also the old long-forgotten spears and other weapons, harpoons for instance, had been brought out. The warriors marched very much at their ease; whenever they had a chance, one would drain a cocoa-nut, eat a bit, light a pipe, or strike up a chat, quite as if nothing out of the common was on foot. When Kabua reached the battle field, though as yet almost all alone, he made ready for action. As the wrathful lion, before its deadly spring, shakes its wild mane and curls up its tail, so he wagged the long skirt of his grass crinoline, brandished his Spencer rifle in the air with an alarming war-whoop, soon afterwards triumphantly concentrating himself to the rear, a movement followed by his brave soldiers in the quickest time. The hostile reconnoitrers had pressed into the village, not to spy, but to buy some powder and tobacco; they returned to their camp, without molestation from the Jabwor warriors at hand. Next day, on the narrowest part of the island, below the village, Kabua had a trench of coral stones thrown up, which, finished in wonderful haste, was the last action of this war. Here a watching detachment encamped, and impatiently and resolutely awaited the foe. The only occupation of the warriors was eating, bedecking themselves, and shooting in the air, through which no harm came, strange to say, for most of them had not the least notion of handling firearms."

annexed by Britain. Such names as Marshall and Gilbert come from the captains who first called attention to these groups, whose names may be as loosely fixed as their boundaries; several of the Gilbert clusters or islands have half-a-dozen aliases. They are the most unproductive of all the Micronesian archipelagoes, yet in spite of this disadvantage, some of them, "warrens of men", are very thickly populated by a sturdy race who live chiefly by fishing, and much on the fruit of the pandanus or screw-pine, a cone as big as a man's head, containing fibrous capsules which white men count uneatable, but from them the natives make a kind of bread, and a sweetmeat from the saccharine

Gilbert Islanders

Photo Kerry, Sydney

juice, that can also be fermented into an intoxicating liquor. Their visitors, it is supposed, have taught them to draw toddy from the cocoa-palm; and under the effect of these beverages, the people appear to be dying off faster than by the swords edged with sharks' teeth which they used against each other, armouring themselves by cocoa-nut fibre ingeniously plaited into corslets. For everyday clothes they are contented with hats and waist-cloths plaited from the pandanus leaf, that, growing as long as a man, supplies also thatch, sails, and mats. Though the *ridis* of the women are "cutty" to a scandalous degree, these dusky Godivas appear to be more clothed in modesty than are some better-skirted Polynesians. Clothes are little called for by what R. L. Stevenson found "a superb ocean climate, days of blinding sun and bracing wind, nights of a heavenly brightness", when the air "was like a bath of milk". This lamented writer made a considerable stay at two towns of the group, and formed a good opinion of their people. Tarawa is the largest island, but Apemama appears

to be the richest, where Stevenson enjoyed the favour of King Tembinok, a potentate who wore a pith helmet and blue spectacles, traded in his own ships, and tried to forbid drink, tobacco, and money to his subjects, vainly attempting to protect them from demoralization. Copra is the produce that chiefly brings white traders here with their drinking-shops. The pandanus leaf has been suggested as an excellent material for paper. Paper is as yet in small demand here; but some of the natives are taught to read by missionaries. These people have been imported as "labour" into some of the Polynesian islands, where they were found more useful than the weaker and less industrious Papuans, while their comparatively peaceful character encouraged this trade in flesh and blood.

For ten degrees below the Equator runs on a straggling chain of islands,

Main Street, Funafuti. (By permission of Mr. John Murray.)

ending with the Ellice group, which also belongs to Britain. The Lagoon Islands is an *alias* which expresses their character. The chief one, Funafuti, is exhaustively described in a book by Mrs. David, who pronounces its natives the most strictly honest islanders in the Pacific, while she will not say that they are always truthful or clean. Known for hardly a century, most of the two or three thousand people on these islands have been converted by the missionaries; and they have the name of being peaceable, though on one island, Nanomea, the inhabitants are singularly tall and muscular. Some of them come from the Gilbert Islands; others by their language, customs, and traditions belong to Polynesia, with which this group is commonly reckoned, or they may be considered as northern outposts of the Fiji Archipelago.

East of the Gilbert group, a little below the Equator, are the Phœnix Islands, and some hundreds of miles to the south of them the Union group. Of these there is little to be said, except that they are small, low, and scantily inhabited, that they belong to Britain, and that some of them have yielded guano as well as copra. They are of the common Micronesian type; but they lie beyond the meridian of 180°, which on this side we take as boundary of Polynesia.

THE FIJIAN ARCHIPELAGO

The Fiji Islands may be taken as a link between Melanesia and Polynesia, while as a British colony of hopeful prospects, and as a considerable mass of land in a central position among the South Sea archipelagoes, they are not unworthy of separate mention. To the smaller windward islands properly belongs the name Fiji, which on the leeward side of the group takes the form of Viti. Lying 1200 miles north of New Zealand, at the south-west corner of Polynesia, this archipelago consists of two large islands and more than two hundred small ones, most of these uninhabited, many mere reefs, in all making up an area rather larger than Wales. By race the people are Papuans, but of a superior breed, elevated by some contact with Polynesian religion and customs as by an infusion of Polynesian blood, well marked on the east side, where their neighbours the Tongans have pushed conquest and settlements. We found them decently if slightly dressed, cleanly in their ways, more strict in morals than the dissolute Polynesian islanders, and not so much given to grotesque ornament as their kinsmen of Melanesia. The fact that their language was one of similar dialects over the whole group points to a higher development than that of the barbarous tribes who on the same island can interchange ideas mainly by *voies de fait.* Not that the Fijians were a peaceful or humane people. With their spears, clubs, slings, and bows they carried on lively warfare, which might be extended from island to island by fleets of canoes 100 feet long, kept steady by big outriggers, or lashed in couples to support a platform or pooped deck. The hostile tribes were ruled by venerated hereditary chiefs who, under a sort of feudal system, could be brought more or less completely to recognize the headship of a king of the whole archipelago. Till half a century ago they had a bad reputation for cannibalism—"long pig" being their favourite dainty, supplied by friends as well as foes,—also for human sacrifices, in which the victims, it is said, often gave themselves voluntarily to be buried alive; as was the lot of old and sick persons, while mothers made little of killing their female children, and wives let themselves be strangled to fill up their husband's tomb. The striking feature of Fijian history is the way in which this fierce character has been quickly subdued, a revolution chiefly due to missionary influence. Travellers, who find them so friendly, so good-natured, so lazy, can hardly believe that some Fijians in their hearts still half-revere the "tiger shark", to appease which, they remember how a live child would be exposed as an offering; and that within living memory a chief could boast of having eaten nearly nine hundred men, the count kept by stones which he set up as monuments of such treats.

About a century ago the islands received their first white settlers in a gang of escaped convicts from Australia, who attached themselves to rival chiefs, and

by their firearms helped on the work of slaughter, till most of them had their turn to be killed and eaten. Intercourse with the crews of whalers and traders proved hardly more civilizing; but in 1835 the islands to the east were invaded by Wesleyan missionaries from the neighbouring Tonga group, where they had already gained a footing. For twenty years they had a hard fight against the bloodthirsty instincts of the people, hindered, too, by the rivalry of not less bold Catholic priests, who, however, have not found so much success here. The missionaries were helped by the prestige of their race — "muskets and gunpowder are true!" as one would-be disciple exclaimed — and later on by the

Photo. Martin, Auckland

Native Village, Fiji

arms of their convert, King George of Tonga, interfering in the welter of Fijian politics to establish the supremacy of a chief named Thakombau, whose power in many parts of the group, indeed, remained much like that of James V over his Roderick Dhus and Douglases. Schooled by rebellion and other troubles, Thakombau had already shown favour to the Christian teaching, and in 1857 he allowed himself to be baptized, professing his faith, as one of the missionaries could not but remark, before a congregation of "husbands, whose wives he had dishonoured; widows, whose husbands he had slain; sisters, whose relatives had been strangled by his orders; relatives, whose friends he had eaten; and children, the descendants of those he had murdered, and who had vowed to avenge the wrongs inflicted on their fathers!"

Though their royal convert's faith, it is owned, "was very meagrely illustrated by good works", the missionaries had now a comparatively easy task under the king's protection; for a time, indeed, they exercised the authority well earned by

their perils and sufferings. Temples were destroyed; a church was built; a gallows also appeared as a sign of civilization, replacing the unspeakable tortures that had been the daily procedure of Fijian law. Cannibalism, for some time back forbidden by Thakombau, quickly died out, unless as here and there occurring on the sly in out-of-the-way parts; and most of the people came to show a certain shame even in talking of it. Other heathen practices were abolished in favour of missionary ideas of propriety and devotion, to which almost all the people are now won, though their belief cannot be called of a high type, the new religion being sometimes basely alloyed with the old. At least, as if weary of cruel war, they have settled down to live in peace, the old customs dying hardest in the mountainous interior of the chief islands.

The political government, once like to become a Wesleyan hierarchy, for some time continued an unstable one. From Australia and elsewhere, now that the islands were quiet, planters went on arriving, who would not let the missionaries have all their own way. The European residents were disposed to treat Thakombau as a puppet-king, solemnly crowned with a wooden diadem; but he soon felt the cares of kingship when he attempted to raise taxes, a proceeding resented by both white and black subjects. A fine levied upon him by the United States put him to the necessity of offering to cede his sovereignty to Great Britain, which declined it at the price of a few thousand pounds; and the money was supplied by an Australian company in return for concessions of land which the king had hardly power to grant. Thakombau lived mainly on the little island fortress of Bau, well contented, after his turbulent early days, to reign but not govern. As the planters increased in numbers they got him to establish a sort of constitution, which practically put the power in the hands of white men chiefly concerned to fill their own pockets. But this did not work well; the state sank into bankruptcy; the bank-notes it issued fell almost to the value of waste-paper; and want of firm authority again began to attract lawless adventurers, so that the ill-cemented civilization of Fiji threatened to fall in pieces. The king found a worthier adviser in Sir John Thurston, who was destined to end a long connection with this country as British governor. Another offer of annexation was made to Great Britain, which, in 1874, accepted the responsibility; and since then the islands have been governed as a Crown colony, the king and the leading chiefs comfortably pensioned off, some of them well content to exchange patriotic sentiment for a liberal indulgence in *papalanghi* gin and brandy. The native nobility still have a high prestige, wisely utilized by their foreign masters. Under the control of British officials, much authority is still left to the *Roko*, a governor appointed over each province, to the *Buli*, or district chief, and to the headman of each village; then there are provincial, district, and village councils, by which, with as little interference as may be, the people are allowed to carry on their own local government. A force that most makes for order is the moral influence of the missionaries, who have a church and school in every village, where the old state of things may still be recorded by hollows in the earth, marking the great ovens used for cooking human bodies, and the stones against which were dashed out the brains of victims devoted to heathen gods. A small body of police, chiefly native, is found enough for keeping the peace, under a code of English law to some extent adapted to the notions and conditions of Fijian life. If the chiefs at heart regret their old independence, they see well to fall in with the new order; and the most

openly discontented subjects here are some of the whites, who kick against the rule of a Crown colony which they would fain exchange for union with New Zealand. Many of the natives, indeed, are said to express the same desire, but this childlike people would be less fit than the Maoris to make citizens of a free state.

After the annexation, Thakombau and his court were treated to a trip as far as Sydney on a man-of-war. Unhappily they brought back with them the infection of measles, that in a few months killed some 30,000 to 50,000 people, by some accounts one-third of the whole population; calamity which, taken for a

Photo. Martin, Auckland

Cocoa-nut Palms, Fiji

judgment of the old gods, brought a check in the conversion of these superstitious islanders. New diseases and changed habits of life seem now to be wasting them faster than their own ferocities; and it is feared that they may in no long time suffer the extinction we inflict on aboriginal peoples. They are liable to leprosy, malignant ulcers, elephantiasis, and other skin diseases. Like the inhabitants of other South Sea islands, it is found that they do not take kindly to work in plantations, from which they can always run away; so the planters sought more manageable "hands" in Melanesian natives, recruited by the "labour trade" that, as in the case of Queensland, was often carried on with scandalous abuses and had to be brought under strict regulation. These, however, have been almost entirely supplanted by patient and biddable Indian coolies, who after the expiration of their bound service often remain at work on their own account, and now number some 26,000, who with about 2500 Europeans and the Fijian natives make up a total population of over 130,000.

A BANANA PLANTATION, FIJI

The banana, now so familiar as an article of food in this country, is supposed to have originated in the East Indies, but it has long been widely spread over almost all tropical and subtropical lands. The plant (*Musa sapientium*) is really herbaceous, but grows to a great height and has a distinctly palm-like appearance. It has a crown of very large leaves, enclosing the large bunches of fruit. In many lands, such as the South Sea Islands, the banana and the plantain, which is only a variety of the banana, are an essential part of the food of the natives. Two typical Fijians are shown on the plate beside the banana plants.

A BANANA PLANTATION, FIJI

For Europeans the climate is not unhealthy, but somewhat enervating, producing often a mental lassitude that willingly adopts the favourite native phrase *malua*, "to-morrow", and sometimes ends in complete prostration. A good deal of low fever has appeared among the settlers; but there is no malignant malaria on the islands, as might be feared from their rank vegetation and moist hot climate, which has the merit of being equable, regular, and cooled by sea-breezes for the greater part of the year. The average rainfall is about 100 inches, falling through the year, but chiefly in our winter months, the middle of which is also the season of violent hurricanes; else calms and light winds justify the name of the Pacific. Snow is unknown; hail and fog are rare. Most rain comes to the weather side, that is the east, which has the richer vegetation, while the leeward shores may be comparatively dry and bare. Almost everywhere the slopes of these mountainous islands have a rich volcanic soil, bearing woods of palms, pines, and other trees, filled up with dense evergreen jungle, often brightened by such points of colour as the scarlet bloom of the hibiscus, the yellow of oranges and lemons, the golden balls of the shaddock, the orange-tinted fruit of the papaw, perfumed white trumpet-flowers a foot long, and masses of croton bushes varying "through every tone of crimson and gold to green and primrose". The coast plains, too, are often richly wooded, or covered with grass and reeds, till broken up for plantations. One curious production is a kind of luminous fungus, which a jovial Fijian may use for playing tricks in the dark, like the turnip lantern of our ploughboys.

Some of the timber is valuable for building purposes; other trees, like the sandal-wood, have been so much in demand by traders as to become rare. Large and luxuriant are the plantations of cocoa-nut, which, besides copra for trade, furnish meat and drink from the nuts, salad from the top shoots, cordage from the fibre, thatch, baskets, fans, &c., from the leaves, torches from their ribs, and cups and lamps from the shells split into half. The bread-fruit also, with its massive green globes, is common about the native villages, among gardens of yams, taro, bananas, sweet-potatoes, into which onions, cabbages, pumpkins, peas, and other foreign vegetables are introduced. Pine-apples and melons are plentiful in some parts. These descendants of cannibals are mainly vegetarians, though they keep pigs and poultry about their homes, formerly built for safety on heights, now brought down to the richer shore strips, where they nestle in green shade. The houses, square or oblong, often surrounded by a neat fence of bamboo or of castor-oil plant, have usually walls of stiff reeds bound together by cocoa-nut fibre, and roofs thatched with grass or plaited palm-leaves, with an opening for door and windows in one, a simple style of building that allows free ventilation as well as the frequent ingress not only of domestic animals, but of the crabs, lizards, harmless snakes, mice, cockroaches, centipedes, and mosquitoes that chiefly figure as the native fauna, along with beautiful birds and butterflies. The building may be divided into two parts by a reed screen, the sleeping-room having its floor slightly raised, on which a wooden frame supports a bed of parallel canes, hung round with a mosquito-curtain. In better-class houses the beams are sometimes covered with *sinnet* and vari-coloured strings of cocoa-nut fibre wound round them so as to form striking patterns; and a favourite ornament is clusters of whale's teeth, which pass here as precious possessions. Other furniture is supplied by mats or carpets of palm-leaf, and by hangings of painted bark cloth. Besides such vessels as wooden bowls and plugged joints of bamboo, the Fijians had well-shaped and

coloured pottery of their own, sometimes in large pots and jars containing several gallons, or as much as a hogshead; but this art is dying out among them as European utensils and conveniences come more and more into use.

The native cloth of fibre, here finely worked and dyed, has much given way to cheap cotton stuff; but still many of them make their *sulu* kilts of variegated leaves, and they stick to this native dress, that is quite enough for their climate. Their savage painting and tattooing are dying out, yet a man will black his face or smear himself all over with cocoa-nut oil as a protection against the heat of the sun, and their huge mops of hair are dyed or powdered with lime, which makes a useful cosmetic as keeping off vermin. This point of pride, which the missionaries have been able to cut down, was often so elaborately dressed to stand on end that, like other South Sea Islanders, the Fijian dandy had to be equipped with a wooden rest on which he might lay his head at night without disarranging his *coiffure*. One chief's lordly mop has been measured with a circumference of five feet; and such an one's barber held an important office of state. Sometimes the natural head of hair was replaced by an enormous wig. A man shaves his face, however, even if the razor be no better than a bit of broken glass. He is still fond of barbarous ornaments, such as a necklace of whale's teeth or a curved boar's tusk, breastplates, and bracelets of shell; but for good specimens of these, as of clubs, wigs, and other curiosities, collectors will soon have to hunt in the wild interior parts, where, now and then, may turn up that gruesomest implement of savage life, the wooden forks that were used only in eating human flesh.

Whatever they may think of the new state of society, these sturdy blacks look cheerful, content, and surprisingly good-natured for a race that had such a ferocious character only a generation or two back. The youngsters are kept out of mischief in the missionary schools; and the Government has established an industrial school at which young men may learn farming, building, carpentry, smith-work, and other useful arts, which they are encouraged to practise by having workshops and tools provided for them in localities where their trade may come in handiest. Native doctors, too, are trained and settled in the villages. The Fijians work fairly well by fits and starts on their own account, if they kick against service to white men; yet by our law sanctioning old custom, they are liable to forced labour for their chiefs, a system of *corvée* said to be abused, in spite of Government restraints and regulations; and even against some of our officials charges of oppression have been supported by philanthropic advocates. The people take more kindly to play than to work, making keen if not very scientific cricketers; and throwing themselves into athletics with a vehemence that sometimes ends in a free fight.[1] The dialect of the royal Bau has been

[1] Mr. H. Stonehewer Cooper (*Coral Lands of the Pacific*) gives a pretty picture of a Fijian festival as reformed from the old ferocity. "First came the school-children in single file, and coiled themselves up in the centre of the square. Each child as it passed halted, and read a verse from a Testament. Then they unwound themselves, and came up in the same fashion with their writing on slates. Then came a dance called the *meke*. They retired a little, divided into bands, and then came forward in a sort of dance, turning first to one side and then the other, moving in the most perfect time, and chanting as they came. All their movements were graceful, and the way in which the tune, if one can so call it, was first of all sung by those in front, and then taken up, a third lower, by those behind, was very effective. When they had come close enough, on a signal they all sat down and began a geography lesson. The native teacher called out the name of a country, as 'Peritania' (Britain), and one of the children in a lower minor key began to chant 'Peritania sa matanitu' (Britain is a 'kingdom'). Then a third higher some other words, saying where Britain is, &c., and then, with a swaying motion of their bodies and a rhythmical clapping of hands, sometimes beating the ground, sometimes pointing on one side, sometimes the other, and sometimes joining hands overhead, they all joined in a chant descriptive of the extent, government, &c., of the British Empire; in fact, it was elementary geography turned into a

adopted as a standard language into which the Bible and other religious writings are translated; and on this island, once focus of cruel heathenism, is now a seminary for native evangelists.

The white settlers show less cheerful countenances than their half-naked neighbours. Apart from the depressing influence of the climate, they have much cause for complaint in the commercial conditions that tell against their profit. At first it was hoped that cotton would be a profitable crop, and recently the government has undertaken to revive its cultivation. This gave place to sugar, which promised to do better, but for long the sugar-cane has suffered from the competition of beet-root. It may be that recent international arrangements will bring benefit to Fiji planters, who hitherto, indeed, have found sugar their most valuable product. From sugar and molasses are distilled spirits, which in this climate should not be consumed at home so much as is the case. Bananas, pine-apples, and other fruits are exported to Australia and New Zealand, with which this colony has most of its trade. Maize, coffee, tobacco, tapioca, tea, spices, pea-nuts, and other crops have been tried, some of them with success; arrow-root, ginger, castor-oil, flower-farming, oil-making, are among various experiments or suggestions. Rice ought to be grown, if only to feed the Indian

Photo. Martin, Auckland

Fijian Native

rather pretty song. In this way they went through nearly all the countries in Europe. After which, singing 'God save the Queen' in English, the school-children left the ground dancing. Then came the event of the day, the great State *meke*. The first was the 'Flying Fox Dance'. From the half-hidden roads leading out of the corners of the square came two bands of men dressed in *likus* (a sort of kilt) of green and coloured banana leaves. These *likus* were beautifully made, the leaves lying very thick one above another, and reaching below their knees. The men were very fine specimens of humanity; some had their faces blackened or painted black and red, and their heads done up in the most elaborate way with white *tappa*. Garlands of flowers and leaves hung round their necks, and they had garters and armlets of bright-coloured leaves on their arms and legs. To describe the dance as it deserves to be described is impossible There must have been over two hundred men and about sixty children taking part in it. . . . The next dance was the most graceful of all. It was called the 'Waves of the Sea', and represented the sea coming up on the reef. The dresses of the men were much the same as in the last; but there were also a number of children in bright *likus*, and with garlands of leaves and flowers. First of all they formed into a long line; then, breaking the line, danced forward, ten or twelve at a time, for a few steps, bending down their bodies and spreading out their hands, as the little shoots from a wave run up on the beach; wave after wave rolled in, and then at the end of the long line ran round, first a few at a time, some falling back again; then more and more, as the tide runs up on the shore-side of the reef, and nothing but a small island of coral is left. The band kept up a sound like the roar of the surf; and as the tide rose and the waves began to meet and battle over the little island the dancers threw their arms over their heads as they met, and their white *tappa*-covered heads shook as they bounded into the air, like the spray of the breaking surf. The people sitting round screamed with delight."

Photo. Martin, Auckland

Canoeing on the Navua River, Fiji

coolies, for whom it has had to be imported from their native clime. Traces of gold and other minerals point to possible resources. Next to sugar, the largest export is copra, that chief product of the Pacific. The seas yield their harvest of turtles, pearl-shell, trepang, and fish, reaped by a race much at home in the water. The navigation of the archipelago is carried on in a somewhat happy-go-lucky way, by a fleet of steamers, schooners, cutters, and other small craft, the majority of which are in the hands of natives.

The islands are in general mountainous or hilly, with flat coast-lands fringed by sandy beaches or slimy mangrove swamps, some few hundred yards outside of which the surf beats against a ring of coral reefs. Volcanic craters tell their tale of the past; but hot springs here and there, with an occasional earthquake or destructive tidal-wave, are the only actual hints of subterranean commotion. The scenery, boldly shaped by fire and water, is often highly picturesque or luxuriant, grand cliffs looking down on the shores, and wild ridges shutting in enchanted valleys like that of Rasselas, so that the Italian traveller, Signor Branchi, is not alone in his admiration. "What cannot be described are the colours of these landscapes, the blue of the mountains, the red of the rocks, the transparency of the air, the limpidity of the water, now azure as the sky, now black as coal where great cedars overshadow it with their thick foliage; then the life of the people, their coming and going, the splashing of boys in the water, in short a very image of the terrestrial paradise!" Mr. Alfred St. Johnston's more prosaic account of the interior of the chief island is that he never saw any land so strangely broken up. "Take a sheet of stiff note-paper and crumple it roughly in the hands, and that will give an idea of this country's conformation."

Much the largest and most compact of the group is Viti Levu (Great Fiji), on the west side, nearly the size of Jamaica, about 90 miles long, with a central mountain mass 4000 or 5000 feet high, from which flow several considerable streams, chief of them the Rewa, forming a fertile delta of alluvial flats at the south-east corner, that offered the most promising area for European settlement. More beautiful is the course of the Navua, which Mr. Douglas Hall describes as "cutting its way through a narrow wooded gorge; and it winds so that the different reaches look like long lakes, set deep in towering mountains". The coast-line also is in parts very grand. Off the east shore lies the islet of Bau,

Levuka, Fiji — Photo, Martin, Auckland

which, covered with houses, was the stronghold of the old Fijian monarchy. To the north of this, on the larger Ovalau, stands Levuka, originally treated as chief town of the archipelago; but its cramped position under a hilly background which prevented expansion caused it to be deposed from that rank. The present capital is Suva, in the south of Viti Levu, prettily situated at the head of a large open bay with a reef for breakwater. It is described as "like any other small colonial infant city: a broad street, open on one side to the sea, runs along the beach in a white line of hotels, shops, offices, and a bank". Another recent visitor qualifies it as the ugliest town he had ever seen, looking from a distance "like a huge collection of empty kerosene tins, nearly all the houses being roofed with galvanized iron". At each end, however, it runs into becoming local colour, the native huts peeping out from masses of green, and on the hill-side above rise the homes of Indian immigrants. The population numbers about a thousand white men and half-castes. This and Levuka are as yet the only European towns, having town-boards and school-boards, jails, and a beginning of good roads

into the interior. There is also a road up the Rewa, which can be navigated in small craft for some 40 miles. As yet the colony has no railway, but it is now connected with the Pacific telegraph cable from Vancouver to Australia.

Vanua Levu, the other large island, to the north-east of Viti Levu, is longer and narrower, of more irregular outline, with a backbone of mountains sending down streams that water every valley. This, as yet, seems not so much to have tempted white men, though it has beautiful scenery, as that of Sava-Sava Bay on the south, admired by Miss Gordon-Cumming and other visitors; and ruins of ancient stone buildings hint here at forgotten culture. Settlers have been more attracted by the rich soil of Taviuni to the east, which, though one ridge of mountain, 3000 feet high, 25 miles long, is called the Garden of Fiji. Vuna is the beginning of a town on Taviuni, through which runs the Greenwich meridian line, 180°, marking off the East from the Western Hemisphere. Koro, Ngau, and Wakaya, among the smaller islands, may be mentioned for their scenery. On the south side of the group, the fourth in point of size, lies Kandavu, whose Mt. Washington makes the first Fijian landmark to welcome travellers coming from San Francisco, to touch at a roomy harbour formed by a bay that almost cuts the island into two parts.

About 300 miles to the north, the Government of Fiji now includes the small but very fertile volcanic island of Rotumah with adjacent islets, whose Papuan people, some couple of thousand, have all been converted, and in 1880, by their own desire, were taken under the care of Britain. The Rotumah islanders have borne a singularly good character, and make excellent sailors, so our control is chiefly exercised in keeping them out of the way of evil communications. Unfortunately, it is observed how even the best-intentioned influences do not always work well on children of nature, sudden changes in custom relaxing the moral and the physical fibre of fierce Melanesians as well as of gentler Polynesians.

Photo Martin, Auckland

Native Hill Men, Fiji

POLYNESIA

The Eastern Pacific, between the two tropics, and for about forty degrees from the central meridian 180°, is dotted by archipelagoes of countless islands, to which the name Polynesia has been fitly applied. There is reason to believe that this was once the area of a long overwhelmed continent, whose mountain ridges re-emerge above the sea in patches, partly through protrusive volcanic force, partly through the patient labour of coral zoophytes. Sometimes a new islet comes to light, or another disappears; many being temporarily submerged by a great tidal wave, like that which lately is reported to have drowned thousands of people on the Paumotu archipelago. These groups, according to their origin, are divided into high and low islands, with much the same physical features as we have already seen in Melanesia and Micronesia. What chiefly marks off Polynesia is its superior stock of inhabitants, whose blood and customs have to some extent overflowed into the western islands, by means of the general set of Pacific winds and currents from the east, if not through an instinct that leads adventurous man to follow the sun. Thus, in historic times, Polynesian warriors have come to conquer New Zealand, as perhaps, in the remoter past, they found their way as far as Madagascar. Yet so good navigators as this race still supplies, may well have made their original emigration from the west.

The Polynesians, to whom the name Mahori is sometimes given, have been supposed of Asiatic origin; and some ethnologists would connect them with the Malays, a relationship that to others seems more doubtful. Some have even sought to ally them with the Caucasian white blood. Setting aside this obscure question, we may take them as long forming a distinct and remarkable family of the human race, separated into small nations by wide spaces of sea, but united by their kindred tongues, singularly homogeneous and agreeing in several peculiarities, such as the absence or confusion of several consonants, a mellifluous prevalence of vowels, and a want of inflexions; the use of reduplicated forms is also frequent. The name Kanaka, applied to all Pacific islanders by whites, means man in this speech. Physically, they are one of the finest races in the world, tall, handsome, brown-skinned, but here and there no darker than southern Europeans, with black or dark-brown wavy hair, the men sometimes with beards. Their countenances are cheerful, their manners courteous, even stately; and in many cases they received their first white visitors with a welcome very different from the sullen shyness of savage Papuans, though the Polynesians, too, could not resist the temptation of stealing such treasures as nails and knives, in their eyes more precious than gold. We found them, indeed, at different stages of development, a criterion of comparative civilization being the cannibalistic practices which still flourished on some islands, while on others they had come

to be looked upon with disgust or remained only as a ceremonious survival, as when the eye of a slain victim was solemnly eaten by the sovereign of Tahiti. In the following sketch, the higher class of Polynesian manners will be chiefly brought out, the lower barbarism of such groups as the Marquesas and the Paumotus left to be noted as exceptional.

Some of the ocean-bounded states were so strong as to be christened kingdoms, their rulers being able to call on thousands of warriors and send forth a fleet of great double canoes, the crews equipped with spears, clubs, bows, and slings. In other groups, the clans lived in constant feud till perhaps united under some fortunate conqueror. Both small and great chiefs were held in sacred respect, inheriting dignified manners and often superior frames of body that made for power in a state of society where the unfit to rule were like to be weeded out by rough agencies. Noble families cherished blood relationships and treasured the annals of their lineage as proudly as any Plantagenet, often indeed claiming descent from superhuman ancestors. Inheritance was preferably through the female side. All classes knew their place; and even among the simplest surroundings, life was regulated by an elaborate unwritten code of custom, which had religious as well as social sanction. In more than one state there had been developed a system of dual government, by civil and spiritual heads; and the pretensions, if not the knowledge, of the priesthood usually made it a formidable body.

Photo. Martin, Auckland
A Polynesian Beauty

Careless and gay as seem the islanders of the "sunlit sea", their life is still oppressed by superstitions like those haunting man's spirit in all parts of the world. For them, too, the souls of their dead live in a shadowy world, to be provided with food and other necessaries as if in the body, to be vehemently mourned with disfigurements and mutilations, and to be imagined as long hovering round the scene of their earthly life. They believe in ghosts, vampires, omens, nightmares; and the entrails of victims were inspected for auspices by tattooed priests who had never heard of Roman augurs. Such dispositions were duly exploited by hierophants cunning in the manufacture of oracles, and in the working of jugglery feats, one of which, walking barefoot, unhurt, on red-hot stones, appears to be still practised in Fiji. What struck discoverers, little versed in comparative mythology, as a special South Sea observance, was that of the *taboo*, which has given a word to our motley language. This was a consecration

or curse, confirmed by such awe of both law and religion, that one who might rashly or thoughtlessly have infringed its prohibitions would sometimes die of mere conscientious dread. The cocoa-nut trees of a dead man would be tabooed for a season by a piece of matting tied round them, that their late owner might not go without food in the next world. A person, a ship, an island, might be sent to Coventry under the ban of the taboo. The same charm was extended to make priest or herald inviolable; and the youth freshly tattooed would thus be nursed while his soreness lasted, fed meanwhile by others, since while in a state of taboo he must not use his own hands. The touch of a dead body sometimes infected the living with taboo. Certain kinds of food were tabooed to women, or to all but chiefs. Any object coveted by a chief could be put under taboo for his own use, as, for instance, the rare golden locks of some fair one which he desired to weave into a wig for himself. These are examples of a superstitious institution deeply rooted in the human mind, but here so twined into all incidents of life that it gave enormous power to the heads of church and state as its interpreters and the ministers of gods, who, like those of other heathen, appear to have been conceived partly from the imposing forces of nature, partly from the memory of deified heroes.

The old forms of Polynesian religion have for the most part disappeared, leaving the vague fears that shaped them to blend with more spiritual teachings. The grotesque idols of the South Seas are now to be looked for in museums, yet on many of the islands, standing up above the sea-shore or buried in gloomy shade, remain altars, "high places", and sepulchral piles, sometimes formed of such enormous blocks of stone brought from a distance that the wonder is how they were placed in position. Voyagers of Cook's day could witness how these sacred spots were still the scene of ruthless sacrifices, their victims the spoil of war, or secretly doomed to sudden slaughter by crafty priest and despotic chief, to be devoted to the gods as well as offerings of fruit. Cook counted nearly fifty skulls lying before one Tahitian Stonehenge. Women were kept aloof from such *marais*, which to this day the natives are often unwilling to approach, especially after nightfall. Far to the east, in the most lonely part of the Pacific, the tiny Easter Island has an extraordinary show of elaborate sanctuaries, of rocks sculptured into sphinx-like forms, of carved and painted slabs of stone and wooden tablets, and of colossal images, some of which have been transferred to the British Museum. The gentle islanders knew nothing of these mysterious monuments, which seem relics of a more highly cultivated race; but remains of ruder workmanship, and on a smaller scale, are scattered about Polynesia; and we have already seen the like on more than one Micronesian island.

We picture these comely islanders as more or less naked and unashamed, yet they have their ideas of propriety, which may not be ours. It would pass for disrespectful to appear wholly unclothed before a superior, in whose presence young men must equip themselves for bathing with a hastily-arranged cincture of leaves or sea-weed, while to Cook it was represented as improper that he should visit a native chief without baring his shoulders. A similar antipodean contrast with our notions is that sitting or squatting makes the posture of respect; standing, of assumption or command. The garment most commonly worn by all is the loose waist-cloth called *lava-lava*, *pureo*, *sulu*, or what not, in different groups; in wilder parts, or in the intimacy of private life, a very exiguous girdle may pass as sufficient. This kilt may be made of plaited leaves, overlapping in varied hues of green, crimson,

and yellow, so as to form a showy tartan, sometimes of bristling fibres that suggest an extended sporran. But the Polynesians have a native cloth-fabric in *tappa*, beaten out from bark or fibres to the thinness of paper. The manufacture of this is a main occupation of the women, the tap of cloth-makers' mallets being here as familiar a sound as the pounding of corn in an African village. Tappa, white and dyed in striking patterns or embroidered with richer fibres, can be produced in great rolls, used to make hangings, mats, and clothes, which are stored away in bundles wrapped within a coarse form of the same material. On state occasions chiefs will appear in showy tabards of this material; but usually

Photo. Martin, Auckland

Tappa Making (Beating)

the upper part of the body goes uncovered, unless with the ornaments of which this people are tastefully fond—garlands and tippets of leaves, bright flowers or delicate fern wreathed into their hair, coronals and breastplates of pearly shell, necklaces of gay berries, of whale's teeth, or of boar's tusks. The hair, done up in different styles of *coiffure*, is often dyed yellow or light-red with coral lime, not only for the sake of amenity, but with the practical aim of banishing vermin. Fat is rather admired as a mark of idle dignity. A plentiful use of cocoa-nut oil gives gloss and suppleness to bare skins. Where dress is at its scantiest, elaborate tattooing takes off the effect of nakedness; but in most parts this custom has almost disappeared, as in New Zealand, the dandyism of youth being easily converted from a torture which could not always be borne to the length of a complete suit. Herman Melville tells an amusing story of a Marquesas Island queen, who, visiting a French ship, saw nothing more admirable than a tattooed tar, whom she proceeded to inspect by opening his shirt and rolling up his

trousers, then by way of inviting comparison kilted her own gorgeous skirts to display the patterns with which her limbs were adorned.

For certain observers, one of the main charms of the South Seas appears to be the unreserved manners and scanty attire of their daughters, a phase that may be taken as exaggerated in travellers' tales, when we consider how, at our seaports, foreign sailors hardly become familiar with the most virtuous English women. But when all allowances are made, the morals of these dusky damsels must be pronounced free, not to say easy; and if there be a Pacific Mrs. Grundy, she keeps much in the background. They are often but too ready to display before strangers such seductive wrigglings as pass for dancing in many parts of the savage world; nor are the lively pantomimic dances, performed by both sexes, always free from offence, nor the songs in which they delight. Their notions are, in short, the antipodes of Puritanism. Yet these notions may include ideas of self-restraint, such as exceptional modesty on the part of a brother towards his sisters, dread of marriage with near kinsfolk, and the notable Samoan institution of the village virgin, whose vestal purity, jealously guarded, forms a centre of social festivity, like the May Queen of our bygone revels. Marriage relations vary, from the harem of some powerful chief to traces of polyandry in certain islands; but there appears to be a fair average of decent and happy domestic life. Infanticide, especially in the case of girls, was common in old days, it being held, at least in some parts, that a woman ought not to have more than three or four children. Children, however, are usually treated with kindness, rather lack wholesome discipline, indeed, while their parents may be careful in carrying out such approved points of physical training as flattening the nose, shaving the head, and perhaps moulding the figure by a system of massage much practised in Polynesia as in Japan. R. L. Stevenson thought that the superior physique often noticed in chiefs might be due not only to better feeding, but to diligent manipulation of the body in childhood. One extraordinary feature of family life here is the extent to which

Photo. Martin, Auckland

Samoan "Taupou", or Village Virgin

adoption or exchange of children goes on, the changelings, fancied for some point by their foster-mother, being treated with the same affection as her own offspring.

This much may be said for the position of woman in Polynesia, that, as a rule, she is treated as no mere beast of burden, but takes only her fair share of work, as of amusement; sometimes she even comes to be reverenced as a chieftainess. Amusement fills more time than work in a climate that easily grants the necessaries of life and does not inspire to superfluous exertion. The slightly-built homes of the people will best be spoken of as we pass through the different groups, where the form and material may vary. Their furniture is chiefly supplied by matting, which appears to be often valued in proportion to its age; faded and tattered mats are treasured in families as heir-looms, held in honour like that paid to our regimental colours. Wooden bowls are used, but more commonly gourds, plugged joints of bamboo, shells or cocoa-nuts split in halves. This race has not been driven or guided to the invention of pottery, in use among many of their inferior Papuan neighbours. A frequent article of furniture is a wooden pillow, or rather head-rest, like the andirons of a fire-place, which is called for by elaborate styles of hair-dressing. Baskets, nets, needles and hooks of bone are among their domestic gear; and the more luxurious peoples treat themselves to mosquito-curtains, fans, and fly-flaps of their own making, as now to cotton umbrellas supplied by the traders. For light they depended on torches of bark, or strings of the candle-nut, resembling our horse-chestnut, whose oily kernel burns pretty steadily with a bluish flame, and its ashes go to make a pigment used in tattooing.

Their cooking is mainly baking in ovens dug in the earth, lined with hot stones, and covered up to keep in the heat till the dish is done to a turn. Thus are prepared the pigs which make their chief meat, as was the "long pig", *pièce de résistance* of cannibal banquets. Fish and fowl are also much used; and a feast may present dozens of dishes, including grubs and snails. But ordinary diet is vegetarian rather, consisting of yams, taro, sweet-potatoes, &c., where these are grown, and almost everywhere of bread-fruit, bananas, and other fruit, often kept stored in pits till half-rotten, a provident custom not grateful to white men's tastes. Byron uses a poet's license in stating that the knobby green globe of the bread-fruit

> "Bakes its unadulterated loaves
> Without a furnace in unpurchased groves".

The white pulp is cooked in some form or other, tasting, when baked, not unlike potatoes. The staple food of the islands is *poi*, a glutinous paste mashed and kneaded from taro, bread-fruit, or other vegetable stuff, which the inexperienced find great difficulty in dealing with, as it sticks in long tough strings to fingers plunged into the treacly mess, that, slightly fermented, has a subacid taste. Salt seems not to be a necessary, but when desired it can be supplied by a nutshell of sea-water; the Kanakas also eat sea-weed for sauce to the fish that figure largely in their fare.

The cocoa-palm, as we know, "bears at once the cup and milk and fruit"; and in some coral islands, where the water is brackish, the people depend on it for drink. The favourite Polynesian beverage is the famous *kava*, made from the root of a pepper plant, in the curious way so often described by travellers, who at ceremonious kava-drinkings partook such a rite of hospitality as eating

salt is in other parts of the world. To suit the prejudices of white men the kava root is nowadays often pounded or grated; but the proper manner of preparing it, so as to bring out its full strength, is by industrious chewing, in some parts girls being chosen for this purpose, in others strong-jawed young men. It is as well, perhaps, that we should not witness the concoction of all our luxuries—

> "In the vats of Luna, this year, the must shall foam,
> Round the white feet of laughing girls, whose sires have marched to Rome".

Here the process goes on before the eyes of those who are to benefit by it. After being thoroughly masticated, the root is steeped in a large bowl standing on legs,

Photo. Martin, Auckland

Girls making Kava

which through long use becomes coated inside with the bluish enamel that makes such a utensil a treasure to South Sea curio-hunters. When duly mixed and strained, the liquor is distributed in cocoa-nut shells, a strict etiquette being observed as to precedence in drinking, also as to the manner of handing and returning the bowl. The infusion is described as tasting like soap-suds with a slight dash of pepper and salt, or of Gregory's powder, and it is seldom appreciated at a first trial by those who will not have been prepossessed in its favour by the preliminaries. The small quantities experimented on by fastidious white men may well have no marked effect, but when drunk freely, as it is by the natives, kava produces a peculiar kind of intoxication, or benumbing paralysis, that at first affects the limbs rather than the head, though excess ends in a blissful stupefaction, followed by its doleful reaction. Kava was the drink of state, originally confined to chiefs, and commonly denied to boys and women. Its

ceremonial use is now dying out, while it is stated to be in some parts more freely indulged in for mere dissipation; and where it has been altogether put down by well-meant prohibition, its place is ill-taken by palm-toddy, orange-rum, and the stronger spirits of the white man. To the luxuries of the South Seas, since Cook smoked his pipe there, have been added tobacco, now almost universally used by both sexes, either in pipes or as cigarettes rolled up in banana leaves.

The present tense has been used too freely in the foregoing paragraphs, so much are original customs being modified or changed. Wherever the almost ubiquitous trader appears, the islanders' own fabrics begin to give place to gaudy calico and other manufactured stuffs, and their simple stock of gear is supplemented by European articles, from rifles to sewing-machines, from galvanized-iron houses to kerosene lamps. The ape-like salutation of touching noses goes out in favour of handshaking and kissing. Tattooing disappears, in some cases has been forbidden by law. The old games and dances are put down by new rulers as savouring of unregenerate ways; but are ill-replaced by such idle pastimes as card-playing. The very language has been stretched and sophisticated to suit a written form. The native music is tamed to religious use; and our popular songs are sometimes adapted as lively hymn-tunes. The simple stringed instruments, the flutes played through the nose, that once contented this people, are laid aside for jews'-harps, concertinas, music-boxes, and barrel-organs. The hollow wooden drums and conch-shell trumpets that called them to shameful orgies, now sound a summons to church or school. But with our religion we have introduced deadly vices, new diseases that here thrive as on virgin soil, killing off the natives far faster than their own cannibal wars, and moral taints more fatal than the disgusting ulcers, leprosies, and elephantiasis swellings that are so common among them. Even our religion, as they have learned it, seems not always or altogether a blessing.

The white men were at first received almost as beings from another world. *Papalanghi* who voyaged in so mighty canoes, who could deal out instant death with thunder and lightning, who made little of such treasures as axes, knives, and nails, not to speak of their wealth in cloth and gewgaws, how could they be of common clay? But a little familiarity might soon give the simple islanders cause to doubt whether their visitants brought with them airs from heaven or blasts from hell. Enough has been said as to one class of whites who first found a congenial refuge in the South Seas; some islands made acquaintance with civilization through escaped convicts, playing the bravo for one or other hostile clan till a career of lust and violence found its fitting end. Then came a forlorn hope of missionaries, whose successors pressed on to make well-nigh complete conquest of the Pacific for various sects of the Christian name. Still these two classes, not so abandoned at one extreme, not so devoted at the other, stand much apart, opposing and aspersing one another's influence on the natives.

Passing travellers are very ready to criticise the missionaries, who in a century have so much tamed this wild people. No one can deny the heroism with which the first teachers threw themselves between warring cannibals, those mild-mannered men and delicately-nurtured women, braving daily disgusts and sights of horror worse to bear than the ever-present peril to their lives, thousands of miles from all help or support, reviled and even attacked by renegades from their own race. It is when their devotion was at last rewarded with peaceful

influence that some of these teachers cannot be admired so much. Chiefs, coming over to the gospel with their peoples in mass, often put its preachers in the position of lawgivers, whose zeal outran discretion. Evangelical pastors found themselves assailed by temptations to play the prelate over their docile disciples. Fanatical popelets pushed bigotry to such extremes that a ship in peril has been refused aid on their Sabbath. Smug moralists made too much fuss about dress, disguising their nominal converts as whited sepulchres of lusts by no means dead. With good reason, the Christian teachers set their faces against the dances and games of the islanders, bound up, as they were, with such demoralizing associa-

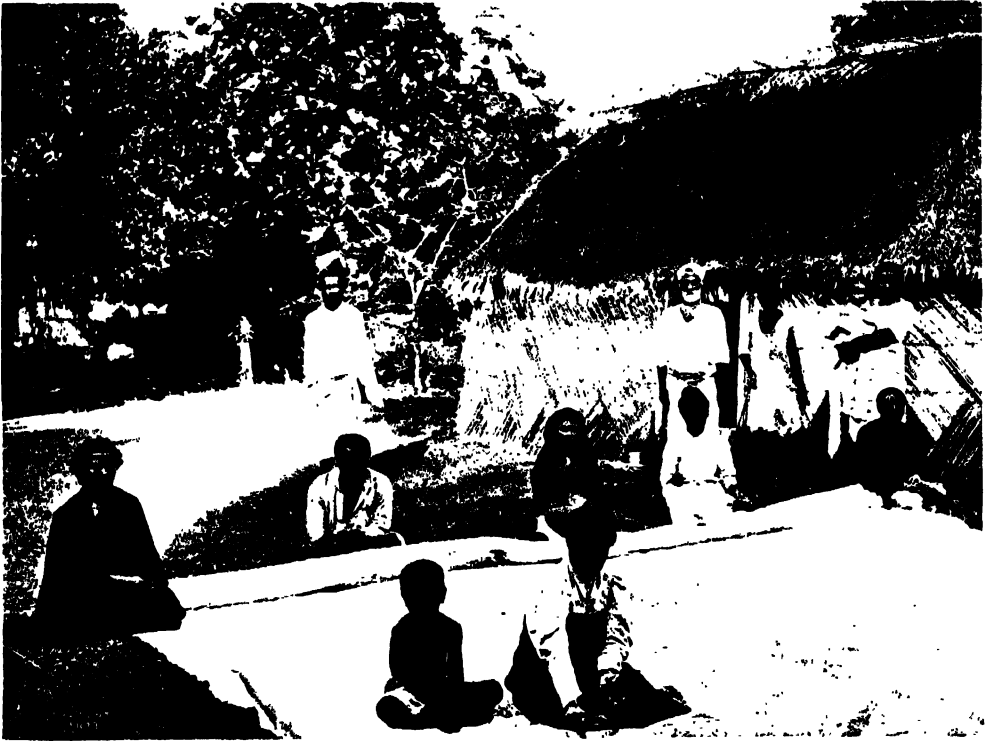



Photo. Martin, Auckland

Tappa Painting

tions and taints of the heathen past; but these pastimes of a childish people have not always been replaced by wholesome amusements, and a more muscular school of divines would fain restore their wrestling, boxing, shooting, and throwing matches, with other athletic sports that included something like our football and hockey. Narrow-minded sectaries could not conceive of religion unless as cramped by forms familiar in their British tabernacles; chapels were built with high narrow pews for congregations used to sit on the ground; shirts, shoes, and other go-to-meeting requisites were insisted on, though often assumed only at the church door. The truly catholic rite of making a collection was practised to an extent that gave occasion for scandal. When the currency of the islands was in cocoa-nut oil, Wesleyanism came to be nicknamed "the oil religion", from the zeal with which its preachers stimulated contributions among excitable flocks, easily provoked to competitive good works that for subscribers at home gave full assurance of their faith. In the hands of the early missionaries were the

printing and distributing of religious books; then, as general agents of civilization, they often found themselves drawn into other trading which proved a snare to souls of less high temper. The latter-day missionary displays a sleek comfort, and sometimes a spiritual pride, that excite suspicious resentment on the part of traders and settlers. These revilers, frankly engaged on their own profit, do not stick at declaring that the pastor treated with so much deference by his dusky flock has a fine easy life of it, as the heathen priest had before him. It is, of course, the truth that the present conditions of the mission-field attract a less ardent stamp of piety; and that the isolated posts of its workers give occasion for temptations too easily ensnaring weak spirits. Nor do all the native teachers, who act as inferior clergy, keep themselves as unspotted from the world as is symbolized by the white shirts and kilts that distinguish their character, when they do not obfuscate themselves in clerical black. But when all is said *per contra*, we may accept the judgment of R. L. Stevenson, no puritanic observer, that missionaries are the best class of men in the Pacific, even if we do not share their own satisfaction, beginning to be more and more doubtfully expressed, with a success that has brought their flocks to outward observances and loud professions of faith, without much elevating the nature of these lively converts. There are many instances of hearty repentance, of earnest thirst for righteousness, but the mass of so-called Christians show a chameleon-like readiness to pass from hysterical devotion to besotting lust; and if the extinction of cannibal cruelty is claimed as a signal triumph, it sometimes seems a question whether flabby pretension to Christian morals be not more deadly to soul and body than honest heathenism. The missionaries have not fair play so long as other white men set very different copies of conduct; but even where the former get all their own way, they cannot check the causes that are killing off the natives through various perversions of civilization.

Not the least stumbling-block for missionary exertions has been the rivalry of opponent churches, in some instances pushed to civil war. This evil has been partly obviated, after experience, by an understanding that different groups of islands should be looked on as the special dioceses of one or other competing body, Samoa given up to the London Mission, evangelical and unsectarian but largely congregational, Tonga and Fiji to the Wesleyans, islands north of the equator to American missionaries, Melanesia to be divided between Anglicans and Presbyterians, and so forth. But such agreements have not always been kept even among Protestant sects, and ill-commend themselves to the great Church that logically looks on all means of grace but its own as poisonous. Catholic and Protestant missionaries are found frequently opposed, to the bewilderment of the natives, who sometimes seek to make their salvation doubly sure by giving a turn of attendance on both doctrines. Of late years Mormon emissaries have been very busy in the South Seas, not bringing the doctrine of polygamy to congenial soil, but a teaching which is said but slightly to differ from that of our Little Bethels, and to be already splitting into queer new developments or degradations. There is much room here for the Mormon virtue of industry. That curious sect styling themselves "Seventh Day Adventists", with keeping the Sabbath on Saturday as their special doctrine, found a happy refuge in certain islands east of 180°, whose early missionaries omitted to rectify their calendars by dropping out a day as they passed from the western to the eastern hemisphere, so that our Saturday all along has counted as Sunday. But

these sticklers for conscience sake recently suffered sore persecution in the Cook Islands, which, since they came under the administration of New Zealand, have had their reckoning put straight with that of the civilized world.

The climate of this region is good, sunny but cooled by sea-breezes, by heavy intermittent rains in the wetter season, and, to imagination at least, by the snowy foam of coral-breakers. It is on the whole healthy for Europeans, though somewhat enervating, producing on predisposed constitutions what is nicknamed "mat fever", a helpless state of physical lassitude and moral paralysis. The prevalent trade-wind is from the east, on which side the conformation of the

Photo. Martin, Auckland

Preparing Copra

islands may be more abrupt, while the sheltered leeward shores, extended by the work of coral zoophytes in quiet water, and enriched by the drift of volcanic ashes, have a better chance to become fertile. This condition, however, may be reversed by the more abundant rainfall of the windward side. The difference in latitude also is enough to account for a considerable range of temperature and productions between the Austral Isles in the far south and the Sandwich Islands on the northern tropic. The low coral islands are drier in climate, often suffering from drought, but feverish spots are everywhere exceptional. On most of the groups no change of seasons is marked from the normal "long tropical month of June just melting into July", unless by violent summer hurricanes that wholesomely clear the air at a terrible cost of disaster and destruction.

Some of the coral rings have little vegetation beyond the cocoa-palm and pandanus. The volcanic soil bears a richer growth; yet to the eye of the botanist the flora of the South Seas counts as poor, which may seem a hard saying in

islands choked with tangling greenery, loaded with wild fruits, and gay with the red and yellow blossoms of hibiscus, the white gardenia, the trumpet-blossoms of the datura, the variegated hues and shapes of croton bushes, the gorgeous curtains of bougainvillea and other blooms in enchanting profusion, where our humble hedgerow flowrets are replaced by palms and ferns known to northern lands in the fossil form of coal. The natural poverty of this comparatively young region is in species; many of its most flourishing plants on the settled islands having been introduced by white men, the orange-tree, for example, so fruitful on Vavau, and the guava that overruns Tahiti like a weed, as the sensitive plant does in Samoa. Figs, limes, citrons, pine-apples, and the butter-like *avocado* pear seem also to be importations, with several other fruits. Others, such as the plum of the large-leaved *vi* plant and the South Sea chestnut, are indigenous. The staple of trade still remains the indigenous cocoa-nut, that, as we have seen, is turned to so many uses at home, besides being largely exported as copra. On many of the islands the bread-fruit, in its several varieties, is perhaps the most important article of food; but this does not flourish in the cooler southern latitudes. Where it is scarce, the people fall back on the pandanus, which bears a woody fruit like a coarse pine-apple, ground into flour or mashed up into a cake, as are dates in Africa, while its leaves and fibres can be turned to use in many ways. Another most useful tree is the paper mulberry, whose inner bark supplies the native cloth. There are fine shade and timber trees—the spreading banyan; the gigantic chestnut of the Pacific, whose buttressed trunk may measure a dozen yards round; the umbrageous *ulu*, like a huge magnolia with dark glossy leaves, two feet long, and pink-tipped snowball flowers strewing the ground below for months; the *tamanu*, with its mahogany-like wood; the enduring coral-tree, with its show of blood-red blossom and its deciduous leaves, here an exceptional case; the *upape*, a tall, bare trunk crowned by a pale-green tuft; the graceful candle-nut, with its silvery foliage; and the funereal *casuarina*, whose drooping hair-like foliage overhangs old tombs. Such names are only hints of the exuberant growth that has given these sunny islands their fame as a lotus-eating paradise.[1]

In animal life the islands are still less endowed by nature. There were no

[1] "I fear no description can possibly convey to your mind a true picture of the lovely woods through which we wander just where fancy leads us, knowing that no hurtful creature of any sort lurks among the mossy rocks or in the rich undergrowth of ferns. Here and there we come on patches of soft green turf, delightfully suggestive of rest, beneath the broad shadow of some great tree with buttressed roots; but more often the broken rays of sunlight gleam in ten thousand reflected lights, dancing and glancing as they shimmer on glossy leaves of every form and shade—from the huge silky leaves of the wild plantain or the giant arum, to the waving palm-fronds, which are so rarely at rest, but flash and gleam like polished swords as they bend and twist with every breath of air. It has just occurred to me that probably you have no very distinct idea of the shape of a cocoa-palm leaf, which does not bear the slightest resemblance to the palmettos in the greenhouse. It consists of a strong midrib, about eight feet long, which, at the end next to the tree, spreads out, very much as your two clenched fists, placed side by side, do from your wrists. The other end tapers to a point. For a space of about two feet the stalk is bare; then along the remaining six feet a regiment of short swords, graduated from two feet to eighteen inches in length, are set close together on each side of the midrib. Of course the faintest stir of the leaf causes these multitudinous swordlets to flash in the sunlight. Hence the continual effect of glittering light, and also the extreme difficulty of securing a good photograph of a cocoa-palm. A little lower than these tall queens of the coral-isles rise fairy-like canopies of graceful tree-ferns, often festooned with most delicate lianas; and there are places where not these only, but the larger trees, are literally matted together by the dense growth of the beautiful large-leaved white convolvulus, or the smaller lilac ipomœa, which twines round the tall stems of the palms, and overspreads the light fronds, like some green waterfall. Many of the larger trees are clothed with parasitic ferns; huge bird's-nest ferns grow in the forks of the branches, as do various orchids, the dainty children of the mist, so that the stems are well-nigh as green as everything else in that wilderness of lovely forms. It is a very inanimate paradise, however. I rarely see any birds or butterflies, only a few lizards and an occasional dragon-fly; and the voice of singing-birds, such as gladden our hearts in humble English woods, is here mute—so we have at least this compensation for the lack of all the wild luxuriance which here is so fascinating." —Miss Gordon-Cumming's *Lady's Cruise in a French Man-of-War*.

harmful beasts or dangerous reptiles, even centipedes and scorpions appearing to be of recent introduction. The chief native quadruped is the rat, that swarmed freely till the Dick Whittingtons of civilization brought cats and other means for its destruction, above all, our brown rat, which plays the Turkish sultan to its brethren all over the world. It seems uncertain when the pig was first introduced; but since Cook's time it has been increased by better breeds, producing a mongrel multitude of long, gaunt porkers, "of all sizes from a guinea-pig to a Shetland pony; of all colours, from a zebra to a negro". This mainly supplies the butchers of the South Seas, where a sucking pig or a fowl are choice dishes, seldom not at hand. Goats and cows are also established residents, more rarely sheep; and horses, once a wonder to the natives, are now familiar on the larger islands. Pigs often run wild in the woods, becoming so demoralized from their domestic tameness that they sometimes run away with lambs; and a dog may be chained upon a new-made grave to scare off these would-be hyænas, which, with fierce wild cattle, sometimes afford exciting sport. There are some slinking curs of at least old standing; but the dog is probably a colonist. The shores are better peopled with tropical birds, some of them very beautiful, like the "boatswain bird", the "frigate bird", and the "phaeton bird", whose long red, black, and white tail-feathers make favourite ornaments for head-dress. The woods harbour lovely pigeons, which are sometimes tamed and even turned to use as postmen between adjacent islands. In their native haunts they have a sore struggle for existence with the rats, here active climbers. Crabs also hoist themselves into trees, where they prey upon cocoa-nuts;[1] there is one powerful claw that can crack a nut with a sound heard like the report of a gun. Brightly-coloured crabs, large and small, burrow in legions, sometimes riddling the "broom roads" that skirt the island shores, where lobsters, crayfish, and prawns are also abundant; and here thrives the hermit-crab, which has the cuckoo-like trick of appropriating an empty shell. Lizards, beetles, earwigs, grasshoppers, spiders, and such like make themselves at home inside as outside men's houses. All ships that carry copra swarm with cockroaches, the most disgusting as mosquitoes are the most annoying plague of this region, to some parts at least of which, like fleas and other insects, they have spread with the coming of white men.

The islanders, living mostly by the sea, are keen and skilful fishermen. They use broom-like spears, in whose prongs the small fry stick; lines of hair; hooks once of bone or thorn, but now more commonly of metal; nets of bark; huge fish-traps; and such unsportsmanlike practical devices as poisoning the water with narcotic juice. They are bold in attacking the cruel shark with knives and spears; they will even venture to tickle him into quiet and hitch a knot over his tail by which he can be dragged forth to make a feast or an article of commerce, for sharks' fins are appreciated in China. There are fish here of the most brilliant hues, from gold to black velvet spangled with peacock sheen; and a catch of tiny minnows can be described as "bushels of diamonds, emeralds, and rubies" while still fresh from the water, when the natives often devour them raw. Some of these fairy-like creatures are poisonous, at least in certain seasons; and some do not taste as well as they look. Then there are beautifully barred water-snakes that might make a vision for Coleridge;

[1] Mr. Wyatt Gill backs up what has been taken for an old wives' tale of Aristotle, that in the South Seas the octopus climbs up pandanus-trees to feast on their scented flowers.

filmy jelly-fish of all hues and sizes, "from a tea-cup to a cart-wheel"; huge, hideous cuttle-fish, *squid*, that squirt an inky fluid under the spear; silvery flying-fish that leap into a torch-lit boat as moths to a candle; quaint, clumsy monsters like the sun-fish; dangerous ones, such as the sword-fish and the sting-ray; and turtles sometimes weighing hundreds of pounds, laying piles of soft eggs like tennis-balls, a welcome find to a hungry man; then turtle and clam shells may be big enough to serve as baths. Whales and porpoises also make booty for the islanders; as in some parts pearl-oysters, trepang, and sponges.

A picturesque feature of island life, noticed by many visitors, is the gleam

Society Islanders Spearing Fish

of fishermen's torches flitting upon the shallow reef waters by night, while below phosphorescent flashes mark the passage of sharks engaged in the same work on their own account. Certain islands enjoy an annual picnic revel through the appearance, on two nights of the year only, for an hour or two before sunrise, of the *balolo* or *palolo*, a worm living in fissures of the coral. At regular intervals that can be calculated on to a day, it throws off part of its fissiparous structure to the surface, when the water is slimy with writhing masses to be scooped up in basketfuls, while great fish, stupid with gorging on the same plenty, fall easy spoil to net or spear. Thus the sea for one night is astir with an orgy of greed, in which, as Mr. Basil Thomson puts it, "the animal kingdom compacted like the joints of a telescope. Shoals of salala gorged themselves on balolo; sanka devoured the salala; rock-cod swallowed the sanka; a cunning shark or two assimilated the rock-cod; and man as usual preyed upon all alike."

The management of a canoe is a matter of course to the Polynesians, who from earliest childhood are as much at home in as on the water. A mere infant is thrown in by its mother, finding its swimming legs as soon as a puppy; then the art is practised in frequent bathings, a cleanliness not always here allied to godliness being the rule. Some stories of swimming feats in the Pacific read almost incredible. A tattooed Leander thinks nothing of crossing a strait miles broad, alive too with hungry sharks. Mr. Romilly tells of a Fijian couple swimming forty miles, dogged all the way by such danger. A Fiji newspaper reports how a Tongan and his wife came to land from a wreck, after keeping afloat a day and a half, the man bitten in the heel, but by waving their *sulus* in the water they had contrived to scare off the sharks that devoured the rest of the unfortunate crew. One of the favourite sports of youngsters of both sexes is gambolling in breakers of surf, where every moment they seem in danger of being knocked to pieces. Men, women, and children came swimming out to Cook's vessels in shoals, playing about them all day in the water, and once hanging thickly as bees to the side of the *Discovery* till she began to heel over; but to be turned off at a word from a chief would be only a joke to the amphibious islanders, who again might imperil a ship by their sly dexterity in drawing the nails out of her copper sheathing under water.

The ordinary canoes are cranky dug-outs, balanced by a large outrigger. The art of building great war-canoes is now almost lost; and only a few specimens are found mouldering high and dry behind the native havens. Their place is taken by schooners, cutters, and other small craft, used by the white traders, and often owned by the islanders themselves, the natives of certain islands, as Rarotonga, having a special repute as sailors to make up their mixed crews. Such handy vessels, depending for most of the year on the regular trade-winds, afford somewhat precarious communication between the groups, unless there is traffic enough to support a steamer service, where the energy of steam seems out of place. The "glad monotony" of cruising in the South Seas has its attraction for many white men, the author of *Treasure Island* for one, who loved to recall "the mountain scenery of trade-wind clouds, watched under every vicissitude of light—blotting stars, withering in the moon's glory, barring the scarlet eve, lying across the dawn collapsed into the unfeatured morning bank, or at noon raising their snowy summits between the blue roof of heaven and the blue floor of sea; the small, busy, and deliberate world of the schooner, with its unfamiliar scenes—the spearing of dolphin from the bowsprit end, the holy war on sharks, the cook making bread on the main hatch; reefing down before a violent squall, with the men hanging out on the foot-ropes; the squall itself, the catch at the heart, the opened sluices of the sky; and the relief, the renewed loveliness of life, when all is over, the sun forth again, and our out-fought enemy only a blot upon the leeward sea".

Unless upon steam-boat lines from San Francisco and Vancouver to the Antipodes, few large vessels fleck the wide equatorial stretches of the Pacific. At one time the great attraction for ships to these seas was the chase of the sperm-whale, a booty that has become not so easy to find at the same time as other supplies of mineral and vegetable oil have made it less valuable. This declined whaling industry differed from the short trips made to the Arctic Seas in search of blubber. The Pacific whaler remained at sea for years, boiling down and casking up the oil as each whale was secured; a dull life but for its

perils, not sweetened by poor fare and harsh discipline, so that the sailors would often desert, lightly lured by the Circes of these enchanting islands, and soon degraded into the half-heathen beach-combers who have been the curse of efforts to civilize them.

The myriad isles of the South Seas, often unnamed and uninhabitable, have nearly all lost their independence, being brought under the more or less effective rule of covetous naval powers; and the principal ones are to some extent colonized by white men. We shall survey them as grouped round the centres of this foreign influence, which seems likely to have the result of sweeping away

Head of a Cow-Whale

Photo. Kerry, Sydney

not only Polynesian manners and customs, but the whole race of islanders whom Cook and his rivals brought to the ken of Europe.[1] It is probable that these first discoverers much exaggerated the numbers, which appear to have largely decreased at an earlier stage; but there can be no doubt that white men have spread death by consumption, small-pox, measles, and other diseases, including our too-familiar influenza, which here takes a very fatal form, not to speak of moral interventions sapping the vitality of the people. None of the powers concerned has much right to make reproaches against its competitors, as all are inclined to do, and if possible to shake off from themselves the blame of so sad destruction. Britain, through the agency of New Zealand, might claim to have shown most care for the natives, especially where they had proved best able to take care of themselves. But one remembers a German geography

[1] The experience of South America, however, goes to show that a point of miscegenation may be reached at which a half-caste population becomes stable and fruitful.

published a generation ago, and adapted in an English form, which contained some such sentence as this: "Under the glorious sway of the late Lord Beaconsfield, this island was fortunate enough to become part of that empire upon which the sun &c.". What the original German author had written, read rather thus: "This island has recently been seized by the rapacious British, who, with their wonted hypocritical pretences of introducing Christianity and civilization, are fast exterminating its unhappy natives". *Traduttori, traditori!*

TONGA

Tongatabu, "Sacred Tonga", is the largest island of an archipelago which Cook christened the Friendly Isles, though it appears that a little further experience might have led him to another opinion of their people, who at his departure were scheming to play an unfriendly trick upon him. They lie at the south-west corner of Polynesia, 1000 miles north of New Zealand, having the Fiji group within two days' sail westward, and to the east the Cook or Hervey Islands already mentioned as annexed by New Zealand. There are ten islands, with many more small islets, in all making several hundred square miles, divided into three groups, Tonga to the south, Haapai or Namuka in the centre, and Vavau to the north, separated by broad open channels, but in a manner strung together by a chain of volcanic action that seems to run through them, now and then throwing up a new emergence of land. What seems most remarkable about these islands is their eventful history during the last century.

The inhabitants are distinctly superior to most of their race, so that both before and after their discovery, this little people of 20,000 have filled a place in South Sea history quite out of proportion to their numbers, at one time, there is reason to believe, much greater than now. The first Dutch visitors found their country covered with gardens, divided by reed fences, among which, indeed, their homes were little better than thatched sheds. The Tongans had grown out of cannibalism and the lust of warfare for its own sake, while fleets of their warriors still made raids on Fiji and were dreaded as pirates on more distant shores. They lived under a settled order, paying great respect to rank and age, and treating woman as no mere chattel. The central government resembled that of Japan in being divided between a spiritual and a civil chief, who in this case belonged to the same venerated family. At the time of their second coming in touch with white men, at the end of the eighteenth century, this ancient polity seems to have been on the wane. Tongan civilization, it is said, had been corrupted by intercourse with the fierce Fijians; the authority of the spiritual prince had decayed; and an ambitious chief named Finau already played such an arrogant part that Cook at first mistook him for the "king". The first missionaries, along with settlers of the runaway type, found the islands in a long fever of civil war that killed all attempts to Christianize them. Early in the nineteenth century, Finau captured an English privateer, the *Port-au-Prince*, massacring part of the crew, and enlisting the rest to serve him with the vessel's carronades, that gave him an immediate advantage in the struggle with his legitimate sovereign. Among the captives was a young man named Mariner, who after a few years made his escape, coming back to England to supply

Dr. Martin with materials for one of the best books on these islands and long the best-known.

Finau died with his usurpation still disputed, but after doing much to shake the old religion and loyalty by his unscrupulous encroachments. His heirs were more disposed to peace; and the power of the legitimate line began to gather head. Its hero was the young prince, afterwards known as King George Tubou, whose long life extended nearly over a troubled century. Tall, athletic, practised in daring and endurance from boyhood, this South Sea Arthur or Alfred first rose to power as governor of Haapai, while his father reigned for a time more or less firmly at Tongatabu, and Finau's successors remained masters of Vavau. The factions being tired of war, in 1822 a Methodist missionary named Lawry threw himself as a forlorn hope into the chief island. Others followed and began to make converts, the most valuable of them George Tubou, who became an earnest champion and preacher of the new faith for which a way had been opened by the breaking down of old heathen sanctities. The change was not carried out without another epoch of civil war, in which the appearance of Roman Catholic teachers made a fresh element of disturbance, giving excuse for French interference. But in 1845 the baptized George was recognized as king of the whole group, over which he not only spread the new religion, but by force of arms and persuasion of his neighbour king was largely instrumental in introducing it into Fiji. A visit to Sydney, also, had opened his eyes to other advantages of the white men; and during his reign of half a century, this enlightened and worthy ruler, in the end idolized by a now united people, gave himself to foster their development in morals and civilization.

In this task it was perhaps natural that he should depend too much upon white counsellors, who did not always serve him well. The Wesleyan missionaries, after their early days of trial, found themselves for a time the practical lawgivers of the country, the king himself being one of their most earnest disciples. They persuaded him into aping English forms of government, fitting him out with a royal standard, a cheap crown, a great seal, a staff in military uniforms, and such like exotic pomps. The Tongan state took itself so seriously as to issue a proclamation of neutrality during the Franco-Prussian war. The country was duly supplied with a constitution, a mixed parliament, and a growing volume of laws, under which the people were forced by law to wear pinafores or shirts as well as their own kilts, and punished for indulgence in their native customs, harmful and harmless. Accustomed to the long-winded oratory of their own *fonos*, the Tongans took very kindly to parliamentary palaver. The missionary code of moral law proved not too galling, its many penalties chiefly taking the form of fines, or of spells of convict labour, worked out by offenders whose prison was usually their own home. A heavier tax was the chapel collections, at which the pride of the people was stirred to excitable liberality, worked up by means not altogether to the credit of their pastors.

For a time thus the Wesleyans had their own way in enforcing foreign ideals, till a rift began to open between Church and State, the wedge being what may be called the question of Wesleyan Peter's Pence. Considerable sums of money, collected by the churches, were sent to the Conference at Sydney, whereas the king's patriotic view was that these contributions should be spent at home. In this grievance he was encouraged by a Wolsey who played false to his Rome. The head of the mission had been Mr. Shirley Baker, who took more interest in

temporal than in spiritual dominion, and made himself the mainspring of the new *régime*, the strings of which he contrived to get into his own hands. The Conference in Australia would have cut short this political career by removing Mr. Baker to another post; then he preferred to remain in Tonga as prime minister, throwing off allegiance to Wesleyanism, and prompting the king to set up a church of his own. No change was made in doctrine or forms of worship, but only in the matter of constitution, which here, as in churches nearer home, aroused the bitterest *odium theologicum*.

This bold step plunged the kingdom into fresh troubles. While most of the converts and native ministers joined the Tongan Free Church, an obstinate minority clung to their Wesleyan teachers. Mr. Baker's successor, Mr. Watkin, was induced to become the head of the new body. Mr. Moulton, who took his place as leader of the orthodox Wesleyans, denounced the schismatics and their royal supporter in terms suggested by Elijah's rebukes of Ahab. For years the country was distracted by these feuds, among which a small body of Catholics did not fail to snatch advantage. Ill-feeling ran so high that it came to persecution of the Wesleyans, who, clinging to the old church, were threatened, bullied, beaten, and even savagely tortured, with the usual result of steeling the faithful remnant. The worst of these outrages were no doubt the work of local officials, gratifying heathen grudges in the name of law and religion; but Mr. Baker went so far as to banish a couple of hundred of his opponents to Fiji; and an attempt at assassinating him was made the excuse for several executions.

King George, Tonga. (From a photograph taken on the "Challenger" Expedition.)

For fifteen years this masterful vizier kept the king's confidence, saddling Tonga with a mass of muddled laws and confusing its finances, while his enemies accused him of lining his own pocket at the expense of the state. In 1887 the disorder of the kingdom led to the intervention of the British High Commissioner in Fiji, and Mr. Baker's power was checked by warnings of more active interference. For three years more, however, he continued in his post of royal adviser, having his home at Auckland, but coming over from time to time to keep the islands in hot water. But his meddling restrictions had made him highly unpopular, and it seems that even the king was tired of his domineering. The people refused to pay their taxes; then for want of funds the wheels of the

elaborate government machine would no longer work. A broken promise to recall the Wesleyan exiles gave excuse for fresh interference of the High Commissioner, who in 1890 summarily ordered Mr. Baker out of the country. Before his death he came back more than once, finally as a member of the Church of England, which he now introduced into Tonga as standard for fresh dissension.

Most writers take a more or less unfavourable view of this adventurer's conduct, so it is fair to mention that R. L. Stevenson speaks of him as "defamed". To fill his place an English official was lent to the king to help in restoring order and credit. This was Mr. Basil Thomson, who, in his *Diversions of a Prime Minister*, has given such an amusing account of Tongan statesmen and institutions. According to him, popular government had been "run" in the manner thus reported by a free and independent elector:—"Mr. Baker came out on the verandah and said: 'You are summoned to-day to choose a representative of the people. I propose so-and-so. Those who are in favour of so-and-so will hold up their hands!' Then several held up their hands, and Mr. Baker said that so-and-so was elected, and we all went home." One of the chief questions of parliamentary procedure seems to have been as to refreshments. King George's first legislature of hereditary nobles and elected representatives is recorded to have eaten up 9000 hogs and 150,000 yams, besides other provisions, at the public expense. There was no money to pay the public debts, and Mr. Baker's dealings had so tied the hands of his successor that the state was threatened with insolvency. Mr. Thomson—his real position that of a tactful wire-puller, the nominal premier being a Tongan chief—had to lend a long and strong pull to set the Tongan government on its financial legs; and he confesses, with a touch of shame, that one of his expedients was a change in the postage-stamps by way of levying a tax upon philatelists. After some months of hard work, in 1891 he left the country with a clear balance-sheet and freedom of worship. But with the next few years came fresh misfortunes. In 1893 King George died at the age of ninety-six, up to the last living in the most simple style of Tongan domesticity, dressed in rusty black like a preacher, and lavish in nothing so much as building churches, where he himself would often conclude the services with prayer. His people, relapsing into their heathen ways, gave themselves up to months of idle mourning; the collection of copra was neglected; the surplus in the treasury went on long funeral feasts and a sumptuous mausoleum. The king was peacefully succeeded by his great-grandson George II, a young man of twenty, who proved a Rehoboam, led astray by rash advice. His kingdom got into fresh difficulties, which led to its being taken, king, parliament, privy council, and all, under a British protectorate, not that we had any interest in the gain of a half-bankrupt state, but in the risk of its falling into other hands. George II, decorated with orders of his own conferring, reads English papers, uses a type-writer, and seems to have grown in prudence if not in popularity.

The loss of complete independence must have been rather a bitter pill to the Tongans, who have a very good opinion of their own capacity, not altogether without reason, though their public spirit could not support the burden of foreign institutions too rapidly imposed upon them. All children learn to read and write; and there are rival colleges kept up by the Government and the Wesleyans, whose students are equipped with mortar-board caps and shoes, which they put on at the church-door, but who also have been seen basking stark-naked, then scuttling into some show of costume at the sight of a policeman. Three-fourths of the

people were reckoned as members of the Free Church, the rest being divided almost equally between Wesleyan and Roman Catholic teachers; we cannot say how far this estimate has been affected by the more recently introduced Church of England body. The Europeans of all sorts number a few hundreds, who are introducing many foreign customs, cricket for one, to which the natives take keenly; but, luckily for themselves, the sale of drink to Tongans is strictly prohibited.

Photo. Martin, Auckland

Native Girl, Tonga

The use of horses, or rather ill-bred, ill-kept ponies, is very common among them, it being a sign of respectability to drive a buggy, or at least a cart, cutting up the soft green roads made through the islands by convict labour. Mr. Thomson states that the bread-fruit tree has been almost entirely destroyed in Tonga by horses, which kill this by gnawing off the bark for its glutinous sap. Cattle-keeping is not so common, unless pigs be counted as cattle. The native mammals are confined to rats and bats, including flying-foxes hanging in hideous clumps; the native rat, once abundant, is being killed off by dogs, cats, and ship rats. In bird-life, too, these islands are not very rich, but they swarm with grasshoppers, that seem to make the grass crackle under one's feet, and with fat spiders that spin tough webs from branch to branch, the threads sometimes several feet long. The vegetable productions are much the same as those of neighbour islands; but taro, elsewhere one of the food staples, does not grow freely on this flat soil for want of the stream-watered beds it loves. There is an abundance of long grass that serves the natives for the walls of their airy huts, as for weaving mats and garments. More pretentious homes are of wood and corrugated iron. The chief plantations are cocoa-

nuts, up whose trunks the natives swarm almost as easily as walking upstairs. Beneath them grow banana gardens, which Mr. St. Johnston admired so warmly: "The green of their great leaves is superb, and as they are translucent, when the sun shines through them they glow like emerald. . . . The fruit hangs in great bunches on a curved thick stem, and often one bunch is as much as a man can carry." Oranges are a special production of some parts. The crops are liable to loss by destructive hurricanes, against the force of which houses of any size have to be strengthened. The spread of a thorny vine is doing much damage. The growing of sugar, cotton, coffee, and arrow-root has been invited by the climate, warm by day, but often cold at night with drenching dews. In the hurricane months—the first quarter of the year—the heat will be oppressive; but in general it is not so enervating as that of islands nearer the line.

The principal island, Tongatabu, is a low crescent-shaped bank, over 20 miles long, without natural beauty except in its exuberant vegetation, contrasting with the rocky mass of Eua to the south, which is hardly inhabited. At the bottom of a deeply-cut inlet on the north shore of Tongatabu stands the capital, Nukualofa, behind which Mount Zion, only 50 feet high, makes quite a landmark, crowned as it is by a Wesleyan church and the graves of the first missionaries under funereal casuarina-trees. The town itself, with its pretentious wooden public buildings, is not lovely; but its edges are hidden in the mass of cocoa-nut palms, between which and the sea runs a broad strip of green turf known as the "broom road". The chief structure is the wooden palace which Mr. Baker furnished for King George I in the style of our early Victorian gentility, while his majesty lived at the back in the native manner, but took care for the ornamentation of his adjacent church. The popular king's mausoleum is of an imposingness less in keeping with his simple tastes than with Polynesian respect for the dead.[1] Among the lions of the neighbourhood are the tombs of the old kings, huge blocks of stone, now overgrown by jungle; and an astonishing trilithon monument, resembling the dolmens of Stonehenge, the origin and purpose of which are unknown.

Haapai, the central group, has for its principal port Lifuka, on an island which, though smaller, is more thickly populated than Tongatabu; and the islands here are said to be more beautiful. Tofua and Kao, to the west, are fearsomely so, being active or recently active volcanoes, the latter with a cone several thousand feet in height, whose eruptions were turned to account as "judgments" in the pulpiteering of the Tongan religious struggle. Lifuka is described by Mr. E. Reeves as standing among "One mass of cocoa-nut, banana, pine-apple, mummy-apple, bread-fruit, mango, chestnut—the nuts as big as halfpenny buns!—and many strange trees, chili beans, rich foliage plants, green grass, and dazzling

[1] "We stopped to visit a native cemetery, beautifully situated on a raised clearing surrounded on three sides by luxuriant foliage, and on the fourth left open to the ever-mourning sea. Great many-hued butterflies hovered over the low-growing thicket of red-and-yellow lasendria through which we approached, or swooped by, their powerful wings beating the air like a bird's pinions as they flew. It was touching to witness the many evidences of loving care lavished by the natives upon the resting-places of their dead. Every grave was raised high above the ground-level, and each one displayed an individual scheme of decoration. The foundation of all was the beautifully white coral sand from the beach, and the most elaborately ornate graves were those boasting intricate geometrical designs carried out in fragments of pink and yellow coral, alternated with the smooth black stones—esteemed especially precious in a stoneless land—which had been brought from the borders of a lake in a volcanic island near. Over some of the resting-places of their dead the affectionate Tongan mourners had hung their festive garlands, which were composed of leaves brilliantly tinted, seed-pods, and flowers elaborately knotted together and fringed with long shreds of silver flax. Others were lovingly protected from the rays of the sun by thatched canopies of palm-leaves, or by grass matting, stuck awning-fashion on poles overhead. One of the graves boasted an extraordinary scarlet border, which inspection proved to be made of empty gunpowder flasks placed neck downwards in the sand."—Boyd's *Our Stolen Summer.*

flowers of every size and hue". The town is a mere row of stores and native huts, but, like Nukualofa, it has an hotel, and a "palace" for the king. This was the centre of Finau's power, and the scene of the *Port-au-Prince* massacre, as told by Mariner, while it was within sight of Tofua that the mutineers of the *Bounty* set Captain Bligh adrift, two adventures, the narratives of which furnished Byron with the materials of his *Island.*

By far the finest scenery is found in the northern group, where the volcanic island of Vavau has a strikingly rugged aspect, its wooded headlands calling forth

Photo Martin, Auckland

Vavau Harbour, Friendly Isles

superlatives of admiration after the low shores of other islands. Britain has a fort and coaling station on the excellent harbour of Neiafua, where the little town,

[1] "Quite unlike the other islands of the group, which are mostly of purely coral formation, and which seem to float on the calm surface of the sea, with their rim of golden sand and crown of graceful palms just rising above it, Vavau is bold, rugged, and volcanic, and is clothed from summit to the shore with one glorious mass of varying verdure. The harbour runs deep inland, with precipitous cliffs on either side, in which the constant action of the sea has worn great caves, in which the waves beat with a hollow sound. The sea was so smooth this morning as we entered the harbour—I shall never forget it—that the mountains and trees, with every parasite that matted them together in one wild luxuriance, were reflected in its glassy depths. The scented air was so light that our little schooner's sails hung flapping useless against the masts, occasionally filling out as some slight puff of wind came landwards from the sea. The sun was mounting royally in the sky, and the day was growing hotter every moment; birds of rich plumage flashed across the little gold-lined bays, and the mellow call of some bird to its mate floated to us from the bush. The air was rich and languorous with the perfumes of the shore; we scarcely seemed to move, yet the wooded heights and palm-fringed beach glided dream-like past us. Everyone on board was silent in the heat, no one moved, and the very helmsman seemed asleep; the light fair haze that lingered some short time about the beach was cleared away long before, and the tropic day, with its ardour and light, was with us in all its strength. Here and there amongst the trees a native house would stand, with perhaps a thin line of blue smoke from its fire rising unwaveringly; and little brown and naked children would run joyous to the shore to see us pass."—Alfred St. Johnston *Camping among Cannibals.*

embowered in groves of oranges, yellow and dark green, is approached by a sound dotted with green islands and edged with ragged cliffs. Here opens a spacious cave, roofed by sulphur-stained stalactites, floored by corals beneath a pond of the sea, into which boats can row in still weather; and rich effects of colour are revealed when the setting sun shines in through the entrance, to show how these wonders of nature have been defaced by scribbling visitors of both races. Near this is that other cavern of Byron's poem, whose submerged threshold can be passed only by diving; and it is lit up by reflection through the sea, a retreat that in Tongan story did serve a pair of lovers as in Byron's poem. On the *likoo*, the broken edge of precipices to the windward side, a "Lover's Leap" is said to have been often put to use, the sentimental Polynesians being much given to suicide when crossed in love; and here also is another weird cave, so dangerous of entrance that the attempt has been forbidden. The heights, emerging in grassy crags from the thick greenery, overlook a grand view over the deeply-indented shores and the surrounding islets like emerald patches upon a sea compared to turquoise and sapphire. The people of this romantic scenery have the vehement nature of highlanders, "the Irish of Tonga", Mr. Thomson calls them; and as they made strenuous heathen, so their conversion was wrought with a suddenness that seemed almost miraculous.

Of the smaller islets that dot the passage between Tonga and its neighbour groups, the [illegible] known is Niue or Savage Island, to the east, which now belongs to the New Zealand domain. It is only 17 miles long, with a few thousand people, Polynesians with a Papuan strain, who do not bear out their original name for savagery, but are settled quietly under their Christian teachers, few white men except missionaries finding it worth while to live here. Some hundreds of miles farther east emerge the Cook Islands already dealt with; beyond which, in the same direction, come the Low Archipelago and other groups of French Oceania.

SAMOA

Nearly 300 miles north of Tonga lies the group commonly called Samoa, to which its first French visitors gave the name of the Navigators' Islands. The three principal ones, extending west to east, are Savaii, Upolu, and Tutuila. The central, Upolu, though not the largest, is the most important, "an island that would be called the loveliest in the world, were there not scores of others equally lovely, gemming that glorious South Pacific Ocean". On it stands Apia, which, as a harbour on the route between Western America and Australasia, has grown fast to be an international trading centre. It is also a main focus of missionary effort, for the natives, themselves long converted, are here trained as teachers to carry their message of peace far over both Papuan and Polynesian islands. In the last generation Samoa came much into note in Europe and America through the jealousies of great powers who kept a footing here side by side. Perhaps in England it has become best known by the residence near Apia of R. L. Stevenson, whose frail life, prolonged by the genial climate, suddenly flickered out in 1894, but not till he had made the scenery of these islands familiar to many readers who had half-forgotten the tamer accounts of missionaries and explorers.

The Germans have all along kept the keenest eye on Samoa. German traders were to the front; and German officials stirred up the chronic civil wars that have wasted the beautiful islands, over which Germany, England, and America stood as mutually watchful guardians. At last Germany saw a chance to have the golden apple of the Pacific awarded to her. During our Boer war, but for the pressure of which New Zealand might have had much to say on the matter, an arrangement was come to for giving up Savaii and Upolu to the adventurous empire, while Tutuila, with its safe and spacious harbour, Pango-Pango, fell to Uncle Sam's new ambitions, and Mr. John Bull had to content himself with the grant of a free hand over Tonga and a couple of unsatisfactory Solomon Islands. Thus the beginning of the century saw Germany seated at Apia *de jure* as she had for some time been *de facto*.

Photo. Martin, Auckland
Samoan Chief, with Head-dress

The Samoans themselves, who were least consulted in this arrangement, are one of the finest peoples in the Pacific, perhaps the parent stock of the Maoris. They are well-made, comparatively fair-skinned, and some travellers judge them the best-looking among the South Sea Islanders,[1] as well as the most sociable. They delight in going on

[1] On this point R. L. Stevenson did not agree, but he has much to say in praise of his adopted neighbours. "They are easy, merry, and pleasure-loving; the gayest, though by far from either the most capable or the most beautiful of Polynesians. Fine dress is a passion, and makes a Samoan festival a thing of beauty. Song is almost ceaseless. The boatman sings at the oar, the family at evening worship, the girls at night in the guest-house, sometimes the workman at his toil. No occasion is too small for the poets and musicians; a death, a visit, the day's news, the day's pleasantry, will be set to rhyme and harmony. Even half-grown girls, the occasion arising, fashion words and train choruses of children for its celebration. Song, as with all Pacific islanders, goes hand in hand with the dance, and both shade into the drama. Some of the performances are indecent and ugly, some only dull; others are pretty, funny, and attractive. Games are popular. Cricket-matches, where a hundred played upon a side, endured at times for weeks, and ate up the country like the presence of an army. Fishing, the daily bath, flirtation; courtship, which is gone upon by proxy; conversation, which is largely political; and the delights of public oratory, fill in the long hours."

malanga, a sort of picnic visit or visitation to neighbours, whose best fare will be kept for entertainment of guests that may any day fall upon them like chirping locusts. Hospitality is religion for the Samoan. His house stands literally open, being little more than a thatch supported by poles, under which he lives in the eye of passers-by, screens or shutters of plaited palm leaves, as in Japan, being sometimes put in as a shelter against weather rather than publicity. It is good manners to give away, and not bad manners to ask, so that property here has a very floating character, and a rich man's lot seems less enviable than a poor one's. Every village has its guest-house, where it is the duty of the *taupou*, or village virgin, to entertain strangers, with the assistance of a bevy of laughing girls not so straitly bound as herself to vestal propriety. Strangers, then, may well be charmed by their reception among a race of obliging gentlemen and ladies whose manners seem to be light and easy as their costume.

Their food consists chiefly of vegetable messes, diversified occasionally by pork, fish, and fowl. They are far above cannibalism and infanticide. Their chief ornaments are flowers and leaves, sometimes used for all costume, else supplied by fine matting. The men are proud of long manes of hair, which they do up in different fashions, the *coiffure* of both sexes being arranged on minute rules of etiquette. Warriors affect a kind of turban, which distinguished the partisans of their recent civil war as "red caps" and "white caps". Disfiguring decorations of the face are not used, but men are proud of closely-tattooed breeches such as we have seen in Burma. The highest point of their culture is shown by the language having three forms, applied respectively to different classes, a chief being addressed with courtly forms of respect, the proper use of which must be in itself an education; and its soft musical tone has given this the name of "Italian of the Pacific". Women are held in regard, and children treated kindly, even to spoiling-point. Such a people readily admitted Christianity, which has spread through them chiefly under the rival auspices of the Roman Catholic Church and of the London Missionary Society; while of late the Mormons also have been active in winning converts. This people is strong in the virtue that proverbially comes next to godliness, being as clean in their persons as suave in their manners; and they have the great advantage of not taking readily to foreign spirits.

To all their social virtues the Samoans unite a surprising turn for bellicosity, and in a somewhat grim fashion, the head of an enemy being their choice trophy, a custom as to which missionary remonstrances have been countered by apt reference to the precedent of David and Goliath. But these Christians, not cruel or bloodthirsty, are in the way of cutting one another's throats after a chivalrous manner, with strict regard to the rules of a manly game. The tattooed and bedaubed warriors in their best clothes encounter with a punctilio recalling our knights of the middle ages, or rather a football match where no kick must be given "off-side". An army would stretch fair-play to the point of supplying its starving adversaries with food, that the game might start afresh on equal terms after such an "easy".[1] The church is held sacred; pastors and their scholars are safe out of touch; Sunday is a truce of God. Women, too, go freely from camp to camp. Foreigners are usually treated as neutrals; two hostile lines have been known to cease firing while a white man passed between them; and battles have raged in and about Apia with only accidental damage

[1] Similar instances of considerateness in "playing the game" are recorded of Maori warriors in New Zealand.

to non-combatants. The missionaries have tried in vain to quench their martial ardour. Germany may be trusted to bring down her "mailed fist" on contentions that have kept the warriors in congenial idleness and half-ruined the country by their killing the pigs and destroying the crops of a beaten enemy, as was considered quite the game. In old days Samoa was a naval power, also, sending out fleets of double canoes to make war on Tonga and Fiji; but all ambition of that kind has died out since the appearance of steam-boats and iron-clads. For long the Samoans have felt that the owners of such big ships and such terrible guns were best left alone.

Apia, Samoa Photo.

The main question that for more than a generation made a cockpit of Samoa was that of rival pretensions to kingship, the old hereditary dynasty being rivalled by a successful warrior, like Finau of Tonga. More than once it was agreed to settle this dispute by a double kingship, which probably worked no better in Brentford than it did in Samoa; and by fits and starts civil war kept in exercise the adherents of the Old Party and the King Party, while the foreign portion of Apia was held neutral ground. In 1875 an American adventurer named Steinberger made a bid for power by trying to play much the same Mayor-of-the-Palace part as Mr. Baker's in Tonga; but his proceedings were cut short by foreign interference, joined to native rejection of the would-be usurper. Then came an interval of concord, soon broken by fresh fighting between the rival claimants, encouraged through German intrigues on one hand and English and American sympathy on the other. Readers might not thank us for going into the discords of Mataafa and Malietoa, who so far off are as easily confounded

as Tweedledum and Tweedledee: one phase of the struggle is amusingly told in R. L. Stevenson's *Foot-Note to History*. The practical result is that Germany has the oyster, and the combatants the shells. It appears that the people would rather have come under British suzerainty; but Britain was not eager for a new responsibility at the risk of quarrelling with a neighbour. One result had nearly been the falling out of three powers whose war-ships hovered about the harbour of Apia, sometimes taking a hand in the struggle on shore. Another was the almost utter ruin of these costly squadrons. It is not yet forgotten how a hurricane caught thirteen vessels pent up in the narrow harbour of Apia, how the British man-of-war *Calliope* alone was boldly and skilfully saved by steaming out, with her machinery red-hot, at the rate of a mile an hour—thanks to her store of New Zealand coal, a colonist reminds us!—how the crew of the doomed American flag-ship heartily cheered her as she struggled into comparative safety on the roaring sea; how the other vessels sank, crushed each other, or were dashed on the reefs; and how the generous Samoans exerted themselves to rescue the German sailors with whom they had been at blows; but many a poor fellow came on shore only as a naked and battered corpse. As monument of that terrible day, the rusty skeleton of a German ship lies high and dry on the outer reef, where her broken back was stranded by gigantic waves.

The harbour is a bottle-shaped one, cramped by coral reefs, through a gap in which is the only entrance; and it has no protection against wind from the north. For ten months out of twelve, however, it makes a fairly safe anchorage. Along the green bay curving between flat horns, barred by a chord of surf, and backed by wooded heights, runs the string of white settlements hiding the brown thatch of the native town behind. Apia has years ago got the length of municipal government and a local press. It has hotels, stone churches, schools, consulates, and government buildings; but the structures most in evidence are the wooden, tin-roofed stores and offices of trading firms, whose premises sometimes form a little village of themselves. Above the town are the Catholic Cathedral and College; and a few miles away, at Malua, the seminary of the London Missionary Society, gathering its pupils and sending out its teachers all over the Pacific. Among the show places of the neighbourhood are the Coral Garden of the reef,[1] and the "Sliding Rock", down which bathers let themselves toboggan into a river pool, a device imitated by wooden troughs in our swimming-baths: in Samoa tourists find themselves not always

[1] "Coral gardens exist wherever reefs are in course of formation, but in Apia the coral grows in peculiarly lovely and fantastic shapes just between low and high water marks, so that it can be viewed in all its changing aspects, high or dry, or in shallow or deep water. Out of water its delicate leaves and long shoots are worth examining, but the varied colourings, its chief charm, disappear. Then it becomes of a uniformly leaden-green hue, and the brilliant sea-weeds fall flat and dead. The garden is at its loveliest when covered by three or four feet of water. On a calm day a party of us took a waterman's boat- for which the charge is 1*s.* a head (moderate enough)—and were rowed to the reef, where the boat was allowed to drift gently over the Coral Garden, and we looked down through the limpid still sea on a wonderful, almost fairy-like scene. It was a veritable garden. Slender, long, lily-white flowers waved slowly back and forward to the eddying currents of water. Taller shrubs, with broad and narrow leaves of all the hues of the rainbow, mingled with great clumps of flat, lotus-like leaves and mosses, that spread rich-patterned carpets along the ground. Here and there, magnified by the watery medium, lumps of coral simulated huge dead trees, their thick branches broken off picturesquely short, and gnarled with lichens and orchids. Great star-fish, prickly-backed and spiny, porcupine-like plants intertwined with feathery creepers, that ran along convolvulus-like, and threw their quivering shoots up into the buoyant water. Tiny fish of golden hue, of pure blue, and of pure pale-green, darted in and out among the trees and shrubs of coral and sea-weed like humming-birds in a miniature Brazilian forest, while big sleepy fellows of all shapes crawled along the bottom. The whole was a vivid scene of brilliant, constantly-changing life and colour."—E. Reeves' *Brown Men and Women*

endowed with the thickness of cuticle required for this adventure. Perhaps the chief shrine for British visitors is the home of that self-exiled romancer, darling of critics, who made himself here a favourite both with natives and white men, and his death was mourned over half the world. Vailima, turned into the Governor's residence, is beautifully situated on a mountain slope behind the town, where Robert Louis Stevenson lies buried at the top of a hill.

One matter that may strike new arrivals at Apia is a day's difference in time, arranged between the Eastern and Western hemisphere, which properly should be carried out at 180° longitude on the west side of the Fiji Islands.

Photo. Martin, Auckland

Scene in Samoa, with group of natives

In Europe and North America the sun is kept up with by slipping out an hour for every zone of fifteen degrees. Here twenty-four hours have to be disposed of, so a passenger from New Zealand landing on his Sunday morning finds work in full Saturday swing, while one from the opposite direction will soon have two Sabbaths to keep. The ignorance or neglect of the first missionaries introduced a confused calendar into the South Seas, that has now been set straight on most of the islands. Outside of missionary spheres of influence Sunday made little difference to the early settlers of Samoa. Apia is reported as now morally swept and garnished, but at one time it had the name of harbouring the riffraff of the South Seas, especially after the British occupation of Fiji had driven that class to "move on". Among other inhabitants who were no credit to it, Apia was head-quarters of the notorious "Bully Hayes", last of the Pacific pirates, who left a wife—one of his wives—and children here, after he had been knocked on the head in an obscure squabble. In spite of his nickname this worthy is

described as "the mildest-mannered man that ever cut a throat", with a kindness for birds and other pets recalling Wilkie Collins' "Count Fosco", and able to hide his ruthless brutality under a mask of bland politeness often serving him to escape the consequences of his crimes, remembered in many a yarn of the Pacific.

Before they became masters here the Germans were foremost in the trading community. Apia was a chief station of the great Hamburg house Godeffroy & Son, "the South Sea Kings", who took a leading part in developing trade in the Pacific. Their operations were carried on from Valparaiso in the West and Cochin in the East; then the focus of their South Sea trade became Apia, where they had a harbour and shipbuilding-yard of their own, while at Liége they manufactured arms that spread death upon many a Pacific island. All over Polynesia and Micronesia they kept agents, paid by commission, who fed an enormous stream of double profit from the native productions and from the goods given in payment. When they could no longer buy copra and pearl-shells for beads, tomahawks, and the like, they introduced, as a means of exchange, the debased South American dollars that were the first currency of the islands. They opposed the missionaries, whose work hindered their exploitation of savage islanders; but civilization and science owe something to their enterprise, and their own country has to thank them for the great ethnological museum they formed at Hamburg, afterwards removed to Leipsic. Their patriotism induced them to propose settling German emigrants on their lands in Samoa. The Franco-German war, however, set aside a scheme between Bismarck and the Godeffroys to form a German South Sea Island Company under imperial guarantee. The war proved a blow to the famous firm, which, through rash speculations at home, came to fail for a million after flourishing more than a century; but its place has been taken by a great German *Gesellschaft* that practically owns most of the island.

The Godeffroys, through their Samoan agent Theodore Weber, set the example of being planters as well as traders; and different firms own large plantations in which one may travel through miles and miles of cocoa-nut alleys, that give a certain aspect of monotony, as Ceylon has been tamed by her coffee and tea gardens. Coffee is now being grown here, as also cocoa, cotton not having proved profitable, while a fall in the price of copra, with an extended supply, set the planters on experiments to supplement this staple product. The copra sent out from Samoa has been enhanced in value by a system of drying it in hot-air ovens, instead of in the sun, at the risk of being spoiled by a shower. The plantations are mainly worked by imported Papuans, whose black, coarse features make an ugly contrast with the proud, handsome Polynesians; and when, now and then, they run away into the woods, the fear of these wild men and their cannibal ways haunts the district like a bugbear. They need to be kept in strict discipline such as is not wanting on the part of their German masters, who, if all stories are true, have used the whip pretty freely. Sugar-cane is also tried; and almost any sub-tropical production appears like to thrive here, cocoa-nuts growing larger than in the islands to the south. Oranges, however, have been blighted by a disease.

The climate of Samoa is hotter than that of Tonga, and very wet in the rainy season, as appears from Stevenson's Vailima letters, that, for instance, written one Christmas-eve while "a Niagara of rain roars, shouts, and demonizes

on the iron roof". The hill clefts are filled with rushing streams which strangely tend to dwindle as they approach the sea, so that the lower lands must sometimes be irrigated artificially. It is upon the wooded hills that the natural exuberance of this volcanic soil is best displayed, where yams and mountain plantains grow wild, the latter distinguished from the banana by its cluster of fruit standing upright instead of drooping beneath the huge leaves. The most striking tree is the datura, with its strongly-perfumed cream-white trumpet-flowers, so large that women use them as bouquet-holders. European flowers seem to languish here; but many of our vegetables grow well, as do maize, millet, barley, rice,

Photo. Kerry, Sydney

Natives and Canoe, Savaii

and English grass and clover. Cattle have been introduced, and many of the natives keep horses, some even wheeled carriages, though such roads as exist are liable to be washed away or overgrown. The scanty native fauna includes harmless snakes, swarms of bats, rookeries of flying-foxes, with several brightly-plumaged birds, the most beautiful of them the Samoan turtle-dove, that blends in its plumage an exquisite hue of peacock-green with crimson. Till the missionaries discouraged it as unprofitable, the favourite sport of the Samoans was pigeon-catching by means of trained decoy-birds and nets, for which purpose they encamped, men, women, and children, in circular forest clearings, making a long festival of an idyllic occupation which gave excuse for a good deal of human billing and cooing, as the call of the dove is imitated in their pantomimic dances.

Upolu is the most fertile and populous of the group, which is believed to have in all nearly 40,000 inhabitants. Savaii, to the west, has a considerably

larger bulk, about 40 miles long and almost as broad, but, except on the coast belt, it has been scorched and desolated by eruptions from several craters, one of them about 5000 feet high. The few travellers who have examined its interior give us the impression of stern rather than beautiful aspects: Mr. Douglas Hall here crawled through a jagged cave-tunnel two miles long, full of bats and flying-squirrels. Savaii is separated from Upolu by a strait of a dozen miles, its mouth guarded by the rich islet of Manono and by a precipitous mass of rock named Aborima, where a single cleft lets one pass through the barren cliffs into an amphitheatre filled with tropical vegetation, probably an extinct crater. One part of the coast of Savaii is edged with black lava beds, worn by the waves into blow-holes through which foaming geysers spout up a hundred feet or more against the green background of the land. Half-ruined as this island is, by war as well as by natural forces, there are traditions that point to it as having been the cradle of the Polynesian race.

To the east, farther off from Upolu, lies Tutuila, the American possession, valuable for its large and beautiful harbour of Pango-Pango, which appears to be naturally the best in the Pacific. It is locked in wooded hills, among which a peaked cone and a flat table mountain make conspicuous landmarks, piloting the mariner into a bay, where he finds roomy anchorage and safe soundings at the edge of the skirting reefs. This is nearly 1600 miles from Auckland, over 2000 miles from Sydney and Honolulu on either side, and 1250 miles from Tahiti, the centre of the next important group.

TAHITI AND THE SOCIETY ISLANDS

The island whose name Cook picked up as Otaheite, lying to the east of Tonga, to the south-east of Samoa, to the north-east of the Cook Islands, is the chief place of French Oceania, and much the largest of the group to which our Royal Society stood godfather. Discovered by a Spanish navigator in 1606, then so far forgotten as to be discovered afresh by British sailors, this island was the first South Sea name made familiar to England, through Cook's laudation of its scenery and inhabitants, and through the lionizing of Omai, the islander he brought home to be the pet and gaping-stock of London, as was the lot of another interesting Polynesian at Paris. On one of his repeated visits, with Sir Joseph Banks and other men of science Cook made a stay at Tahiti to observe the transit of Venus. Less desirable visitors were the mutineers of the *Bounty*, who here begot the stock of handsome mongrels, transplanted to Pitcairn, and finally to Norfolk Island.

So warm was the interest excited in England that, before the end of the century, the London Missionary Society came into existence with the special view of enlightening these hopeful natives. The work of conversion went on fairly well, though not without bloodshed, till the Protestant missionaries found themselves rivalled by French Catholic priests. The religious troubles which ensued led to political complications, at one time causing much ill-blood between France and England. Towards the middle of last century France was allowed to assume a protectorate over the islands, which Britain had refused; and their civilization took a French tone, though the Roman Catholic Church did not have

all her own way, French Protestant teachers being introduced to keep up the antagonism of creed; so that most of the converts still profess Protestantism. During the long lifetime of Queen Pomare, who figures so much in many travellers' tales, the French practically governed the island from which they have spread their mastership over this and adjacent groups, while Pomare consoled herself by growing fat and playing écarté, without, says scandal, Mrs. Battle's scrupulous regard for the rigour of the game. After her death, in 1880, Tahiti became a French colony and its people French citizens, represented in the national legislature by a deputy, and privileged to celebrate the

Scene on the Coast Road, Tahiti

Fall of the Bastile, which, or any other anniversary, they are very ready to take as excuse for idle festivity. A good deal of French blood is by this time mixed with the native stock, and not French only; three of the royal family married respectively an English Jew, a Scotsman, and an American.

So much as to the history of an island which has most votes to rank as the South Sea paradise. It consists of two roughly circular peninsulas forming a figure of 8, joined by a narrow neck, in all 33 miles long. Near the centre of the larger part, the inaccessible peak Orohena surmounts a line of ancient volcanic crests, more than one rising over 7000 feet, falling in spurs and ravines to a lowland belt of rich red soil, watered by abundant streams. Lowlands and highlands alike have long been drowned in luxuriant greenery. Man has forgotten the fear of devastating eruptions, and the richness of this land is spared by the hurricanes of the region, only their outer edges having touched Tahiti in living memory. As the breakers are warded off by a ring of coral, so some

Tahitian Man. From a photograph taken on the "Challenger" Expedition.)

invisible genius seems to moderate the wind, pulsing regularly in land- and sea-breezes; and the tide here has the peculiarity of rising slightly only once a day at the same hour. Even the floods of rain that come in our winter often fall by night, then dawn shows the country fresher and greener for its washing. Many pens have laboured to depict the profusion of fruit, flowers, and glorious weeds borne by this favoured soil. "If you can imagine", Lady Brassey puts it, "the Kew hothouses magnified and multiplied to an indefinite extent, and laid out as a gentleman's park, traversed by numerous grassy roads fringed with cocoa-nut palms and commanding occasional glimpses of sea and beach and coral reefs, you will have some faint idea of the scene through which our road lay." Another lady traveller, Miss Gordon-Cumming, points out how "even the commonest crops are attractive—the Indian corn and sugar-cane each growing to a height of eight or ten feet, with long leaves like gigantic grass and pendent tassels of delicate pink silk". The principal road runs right round the island, 70 miles, with the villages, gardens, and plantations chiefly strung upon it or its branches into the coast belt. The mountainous interior is uncultivated and little visited, where a sea of wild green flows into the crumbling craters and surges below volcanic crags.[1]

[1] "The interior zones are uninhabited and covered with deep forests. These are wild regions, fenced by inaccessible mountain walls among which gloomy silence reigns. In the strangely secluded central valleys, nature is sombre and imposing: great bare heights hang over the forests, and sharp peaks stand up into the air; one seems to be at the foot of fantastic cathedrals, whose spires catch the passing clouds; all the little wandering clouds, driven over the sea by the trade-wind, are checked in their flight; they come gathering themselves against the basalt cliffs, to drop down in dew or to fall in brooks and cascades. The rain, the thick warm mists, nurse in the gorges an everlasting fresh greenery, with unfamiliar mosses and astonishing ferns. . . . We walked under a thick vault of foliage; around us primæval trees reared their damp, mildewed trunks, smooth as enormous marble pillars. Everywhere the creepers twined themselves and the tree-ferns spread their broad parasols, cut like fine lace-work. Mounting higher, we found rose-bushes, thickets of roses in flower. Bengal roses of all shades blew there in singular profusion; and on the mossy ground there were perfumed carpets of little wood strawberries. . . . And all day we kept on ascending into solitary regions, no longer traversed by any track of man: before us opened from time to time deep valleys, dark and tempestuous clefts; the air grew more and more sharp; we came among heavy clouds, with clear-cut edges, that seemed to sleep against the heights, some above our heads, others under our feet. In the evening we had almost reached the central belt of Tahiti; below us in the transparent air lay drawn out all the volcanic furrows, all the mountain outlines, the formidable basalt crests radiating from the central crater and falling away to the shores. Around all this the

M. Garnier points out as a peculiarity of this scenery, that the river valleys are headed by a circus-shaped hollow into which the stream dashes down in cascades, then, mounting as it were a gigantic step, on the next level one finds the gorge again opening out among cliffs that sooner or later bar all onward progress into what seems a chaos of ruined mountains.

In this garden of Eden, where every prospect pleases, to the eye man is not vile. Wallis had called the island after our respectable George III, but the French captain Bougainville, who visited it a year later, gave it the more fitting name of Cythera. Cook's companions admired the comely forms, cheerful dispositions, gentle manners, and idyllic ways of the Tahitians, yet, over and above thievishness, these early visitors could not but note some ugly traits in a character that contrasted with the rougher and stronger Tongan nature. The soft climate breathed languor; the rich soil that gave an easy living corrupted manly vigour; and what at first sight seemed savage virtues too readily passed into vices. The copious speech, full of poetic sentiment, made an apt vehicle for lasciviousness; the people's love of flowers and bright colours went with sensuous pleasure; even their cleanliness lent itself to immorality through the favourite pastime of bathing. Family ties were loose; women lightly loved were as lightly forsaken, and their children as easily abandoned as adopted. A guild of chartered libertines called *areoi* travelled about the islands, performing obscene dances and diabolic rites. Contact with coarse white men set hardly a higher copy of morals. The ardour of the new religion itself became often perverted to a dissembling sensuality. Weaned from their ancient amusements, in which good and evil were twined as in a gay garland of graceful blooms and poisonous berries, the once careless children of nature have welcomed the uglier degradation of drink. Instead of the native kava,

Tahitian Girl. (From a photograph taken on the "Challenger" Expedition.)

immense blue ocean, the horizon elevated so high, that by a common optical delusion the whole mass of water had a strange effect of concavity for our eyes. The sea-line seemed above some high summits; Orohena, the giant of Tahitian mountains, alone dominated the view with its gloomily majestic head. All round the island a girdle of white vapour stood out upon the blue sheet of the Pacific—the ring of reefs, the line of ceaseless coral-breakers."—Pierre Loti, *Le Mariage de Loti*.

they have taken much to orange rum, described as a mawkish kind of cider, drunk in intoxicating quantity. It must be said that much blame rests on their French masters, who have found the lively lewdness of the islanders too congenial to the tone of their own colonial license, and who have allowed, or even encouraged, here the demoralization by alcohol, which our more Puritan settlers make a conscience of checking by law and precept, if not always by example. M. Pierre Loti's well-known novel in vain throws a glamour of romance over the ties so airily made and broken between the frail daughters of Tahiti and her unscrupulous visitors. The seductive damsels of the island, not so freely as once revealing their charms, often disguising them in a farcical bedizenment of European costume, are no more modest than of old, but sooner grow into unlovely hags, prematurely wrinkled by foreign vices, including absinthe. One must touch lightly on the causes that are at work to kill off this effeminate people, at present numbering about 10,000, and dwindling at a rapid rate. Papeete, the capital of Tahiti, has earned an evil fame as sink of the Pacific, from which moral and physical infection spreads far over land and sea. The Frenchmen exiled here are seldom of the best class. The influence of missionaries is swamped by the license of free-living officials, Ishmaelites of civilization, riotous sailors, and honestly heathen Chinese who, though the French authorities now begin to look askance upon their invasion, have gained a firm footing in petty trade, and contribute largely to the half-caste element that debases the population.

Many of the people speak French; and most read and write their own language, as modified by their European instructors. Their Christianity seems not to go very deep into a nature that gives scanty soil for self-denial and austerity. "I have been at the services", says M. Garnier, "of the Catholic churches in villages reputed the most religious: so long as the singing lasted, things went off well, and the sweet voices of the young girls, with the more resonant ones of the lads, made an interesting contrast with the severity of religious chants. We being strangers, everyone turned round, stared at us, talked, laughed as if in the street. The congregation moved about, knelt, got up, affecting sometimes a comical gravity, and putting on airs that might be taken as parody of our devout worshippers. The old people slept for the most part; and that reminds me that the father of the reigning queen, who was one of the most zealous introducers of Christianity, used to order a thrashing, after each service, for those who had fallen asleep. In spite of this punishment, given in no tolerant spirit, many of the faithful could not overcome their drowsiness, and the royal executioners had much to do every Sunday after mass. But if the Tahitians have so little respect for our religion, it will be understood that they show still less for its priests, whom they usually treat with a very irreverent carelessness. The Protestant ministers and the Catholic missionaries disputing for their souls, they appear to pass frequently from one religion to another, and even attaching themselves to both together, they will go to sermon on coming out from mass." The same author states that Queen Pomare's zealous father in his old age used to retire to an islet for daily meditation, with a Bible under his arm and a bottle of brandy in his hand; and if this tale be an exaggeration, it but too truly represents the mixed influence we have brought to bear upon many a Pacific paradise.

Papeete, on the north side, is a place of about 4000 people. Its port, not naturally a very good one, with a narrow entrance, is for other reasons rather

SCENE IN TAHITI

Besides giving a good idea of the natural luxuriance of a typical South Sea Island, this plate shows the way in which the natives of Tahiti prepare their favourite food, a small pig. They dig a hole in the ground, and place the pig in it surrounded with bananas. The hole is then covered up, and a fire is kindled about it. The Tahitians' love of picturesqueness is shown in their pretty custom of decorating their persons with garlands and necklaces of natural flowers, as depicted in the plate.

SCENE IN TAHITI

shunned by considerate captains of men-of-war, and is no longer the rendezvous even of the French squadron; but after the opening of the Panama Canal it seems bound to gain importance as a calling station on that route to Australia. The Pacific Gomorrha is famous for the beauty of its environs, as described by the "Earl and the Doctor":—"Great mountains, of every shade of blue, pink, gray, and purple, torn and broken into every conceivable fantastic shape, with deep, dark mysterious gorges, showing almost black by contrast with the surrounding brightness, precipitous peaks and pinnacles rising one above the other like giant sentinels until they were lost in the heavy masses of cloud they had impaled". At the mouth of the harbour is a circular islet so thickly covered with palms and hibiscus that it appears a basket of flowery green, the mainland in miniature.

On landing, one finds the streets, *Rue de Rivoli*, *Rue de Paris*, *Rue de la Pologne*, *Place de la Cathédrale*, &c., shaded by leafy avenues and filled with motley contrasts of life, white traders, sunburned tars, priests and nuns, Chinamen, the natives in their gay attire, the women in long loose chemises of all bright colours, the men wearing shirts and blouses above the native kilt, for which a gaudy flower pattern is much in fashion, and real flowers or fleecy wreaths of white *reva-reva* are tastefully used for head-dress by both sexes. Except the public buildings, the governor's residence, the ex-royal palace, the cathedral, the *Palais de Justice*, the convent of Picpus, and so forth, most of the houses are wooden bungalows with verandas, but some aspire to the dignity of two or three stories, all "smothered in foliage"; then in the grass-grown side streets the native dwellings are often little more than cages of bamboo, through the sides of which one sees much that were better kept out of sight. One noisy quarter is chiefly given up to drinking-bars. Another is the Chinese town, its bamboo huts and quaint stores lit up at night by paper lanterns. "The lighted shops and stores surrounded by the beautiful trees, the gaily-dressed girls, the rollicking sailors, the pleasant smell, the perfect cleanliness, the universal mirth, civility, and good-nature of everyone, the utter absence of quarrelling, jostling, or rudeness, made a very novel, picturesque, and pleasing night scene"—for those who can forget the sin and suffering bred beneath this light-hearted gaiety. By day the chief sight is the market-place, with its show of fish and fruit, where many kinds of money pass current; but the natives prefer the debased Chilian dollars for their satisfactory bigness, and the French authorities insist on their own coin and notes as legal tender.

The favourite amusements, beyond drinking, dancing, card-playing, and promenading to the music of a band, are picnic excursions to lovely spots around, such as Point Venus, on which stands the lighthouse, and a tamarind-tree planted by Captain Cook; and near it is a great cave or lava tunnel, in whose gloomy recesses the people have forgotten how they once heaped up pyramidical tombs or shrines of the old gods. The rivers about the town fill crystal pools in which a great deal of "mixed bathing" goes on, youths and maidens, lightly clad, revelling here in less innocent spirit than Wordsworth when he

> "Made one long bathing of a summer day,
> Basked in the sun, and plunged and basked again
> Alternate".

But it could only be now and then, in our climate, that Master William could enjoy such an aquatic orgy, probably without the full knowledge of a careful

mother; whereas the Tahitian youngsters can spend most of their many holidays in and about the water, coming out, not to dry themselves, but for an interval of refreshment on the fruits that hang overhead, or to lie in the shade singing love-songs, ballads of "battles long ago", or native choruses, passing so easily into Christian hymns that only the removal of their flowery head-gear shows them engaged in an act of worship.

A choice excursion farther afield is to the lofty cascade of Fautawa, spouting from a cleft to dash as rainbow-hued spray into a basin hundreds of feet below; and the fort at the top has a prospect at the height of 4500 feet. In

The Diadem, Tahiti

the same vicinity an open vista leads up to a peaked mass of rock known as the Diadem. And if one could exhaust the beauties within easy reach, a dozen miles' sail takes one to the adjacent island of Moorea, or Eimeo, whose bays are walled by mountain cliffs still more weirdly grand than Tahiti's, their edges bristling with spires, turrets, and gables, their façades fluted as if by the hand of some giant architect, and fissured with hollows like cathedral aisles; below which precipitous steeps are mantled in green to a height which would make an English mountain. Then above rise "pyramids before which those of Gizeh would appear as pygmies, and minarets such as the builders of the Kootub never dreamt of". The Austrian Dolomites seem to be only parallel in Europe to these jagged needles, more than one of them entirely perforated by eyelets that pass for the wounds of a legendary hero's spear.

As usual in French colonies, this one is over-supplied with officials, whose principal occupation seems sometimes to be quarrelling and cursing the ill-luck

that has exiled them from Paris. Under the Governor-General of the French Oceanic possessions there are a Secretary-General, a *Chef du Service Administratif*, and a *Chef du Service Judiciaire*, who, with two inhabitants nominated by the governor, form the highest body of authority; but there is also a measure of local government carried out by a Conseil-General and a municipality. Beneath those heads serve a small army of judges, clerks, and so forth, a force of gendarmes and two companies of soldiers, quite enough to keep order among the submissive natives. It is not so easy to tempt genuine settlers; and the chief traders are rather English, Germans, and Americans than French. The land is mostly in the hands of native proprietors, who do not exert themselves to get out of it much beyond their own needs. There is only one small sugar-mill on the island, owned by Americans. An enormous plantation, worked by an English company with Chinese and other imported labour, proved a failure, its yield of cotton, as elsewhere in the Pacific, being profitable only under the high prices of the American War of Secession. Yet the soil is amazingly productive, and among its abundance of native fruits has given a hospitable welcome to foreign ones, the orange, the mango, and the guava—this last thriving so well as to overrun parts of the island like thickets of weeds, its fruit left to rot, its stems serving as firewood. Coffee, too, runs wild; and the vanilla twines its spicy creepers round sturdier trees and shrubs. Fruit, coffee, and the vanilla-bean appear to be the principal growths for export, besides cocoa-nut. The island has some fine timber, such as the *tamanu*, or native mahogany, throwing the shade of its thick foliage upon sunburned beaches, an old sacred tree which for long the people could not see hewn down without superstitious dread. Thousands of acres in the rugged interior are uncultivated, given up to forests of wild plantain; but in the lowlands every rood of ground is so thickly planted, or so overrun by guava, as to leave no meadow openings for cattle, only pigs thriving, wild and tame, on the island, whose colonists have to import much of their animal food in a tinned supply from New Zealand, which, taken over by Britain about the same time as Tahiti by France, has had such a different colonial development.

The narrow fertile belt is broadest on the west, where the coral zoophytes have carried out their work of ages sheltered from the south-east trade-winds that to this side carried the volcanic ashes to form a rich soil; while the opposite coast is more bare and broken by the waves dashed against it. The widest flat, however, and that only a couple of miles or so across, seems to be at Atimaono, on the south, where the cotton plantation already mentioned was started. Beyond this a rough gorge leads up to the famous Lake Vaihiria, a reservoir of nature filled by innumerable cascades, and dammed up among cloudy mountains, forming a scene which those who have reached it declare to be one of the most impressive in the world. Farther east, a very narrow and low isthmus connects the main mass with the smaller south-east peninsula, where the natives have kept more of their ancient manners, and where the coast shows a wilder face, especially at the extreme point, lashed by winds and waves that allow no coral barrier to grow up against their violence. Here, a generation ago, M. Garnier found people living in a cave, dependent on their nets and arrows, like primitive men; but this savage corner seems seldom explored by the tourists who are so much taken by the sensuous charms of Papeete.

With Moorea and the extinct crater of Maitea as an easterly satellite, Tahiti makes the Windward Group of the Society Islands. The principal islands of the

Leeward Group, to the west, are Huahine, Raiatea, and Tahaa, almost joined, like the double peninsula of Tahiti, within one coral reef, and Bora-Bora, which the "Earl and the Doctor" are not sure whether they should not call the most beautiful of all the islands they visited, its rocky basaltic cliffs, green half-way up, crowned by what seems a giant's castle or ruined cathedral and tower 3000 feet high. These islands were governed by "kings" and "queens" belonging to the intricately-related royal family of which the head bore the title Pomare. Their chief sights are the *marais*, tombs of enormous coral blocks, which in former days were the scene of bloody sacrifices. The people of such rocky citadels had preserved a more martial spirit than defended the main island; and the French had some trouble in establishing their ownership over them. Their situation has an advantage, not only in healthfulness, over the atolls, where an eminence of a hundred feet or so would be a stronghold when these seas are swept by tidal waves, such as that great one in the hurricane season of 1903, that, overwhelming many islands of the Low Archipelago and some reefs of the Society Group, is believed to have drowned thousands of people who could not gain refuge in the tallest trees.

THE LOW ARCHIPELAGO AND THE MARQUESAS

The French dominion in the South Seas is the largest in point of area; but most of it claims little mention through importance. For more than a thousand miles to the east of Tahiti, over a breadth of several hundreds of miles, the ocean is spangled "by a thousand palm-crowned and foam-girdled reefs", some eighty of them of notable size, mostly mere atolls, which have given this eastern Micronesia the name of the Low Archipelago. The Paumotus is the title by which their French masters know them better; and a significant *alias* is the Dangerous Archipelago. Large craft seldom adventure to feel their way in this labyrinth of sandy shoals and banked lagoons, whose patches of soil have hardly any productions beyond cocoa-nut, while the enclosed waters yield a harvest of pearl, pearl-shell, trepang, and turtles. The few thousand natives make good divers and fishers, who ca.. stay under water for two or three minutes, but sometimes find themselves fatally manacled in the snap of a huge clam, lucky to escape with a few fingers snapped off. They are described as "ugly, crafty savages", nominally converted by Catholic missionaries, on whose folds Mormons begin to poach. The south-eastern end of this archipelago has the by-name of the Gambiers, where Manga Reva, chief of a circle of five islands enclosing a wide lagoon, gives the rare sight of a mountain peak, the basaltic Mt. Duff, and is occupied as the citadel of the French mission.

The Low Archipelago extends eastward by scattered isles, among them Pitcairn, that came into fame through its serving as refuge for the descendants of the *Bounty* mutineers. Farther to the east is Ducie Island, known to whalers; and this points to where, a thousand miles farther east, half-way between the South Sea archipelagoes and the coast of Chili, Easter Island rears its deserted monuments of a forgotten past. Its harmless people have had sore reason to regret the discovery that gave it a Christian name. Not fifty years ago Peruvian kidnappers made a raid upon them, carrying off over three hundred slaves to die

upon the Chincha guano-fields. Most of the remaining population have been more kindly transported to Tahiti or the Paumotus; and the volcanic island, though between 40 and 50 square miles in area, is now occupied as a Chilian penal settlement.

Some hundreds of miles south of Tahiti, upon the Tropic of Capricorn, lie the Tubuai or Austral Isles, whose English name implies their position as the most southerly group. The chief islands are volcanic, thinly populated, and little known even to the French who claim ownership here. They have a comparatively bracing climate, too cool for the bread-fruit, but suitable to European products. Over three hundred miles to the south-east, Rapa, oftener visited as a coaling station, shows bold volcanic scenery, and remarkable pre-historic structures like those on Easter Island, which, nearly two hundred miles away, was another home of the same superior race.

Natives of Nuka-Hiva, Marquesas Islands. From a photograph. By courtesy of the Professor of Anthropology, Natural History Museum, Paris.)

Far more interesting than the Low Archipelago are the Marquesas Islands to the north, that may some day become a valuable possession, as they hardly are yet, to the French. They must at least count among the most grandly picturesque scenes of the Pacific, where their inhabitants seem best to deserve the title of noble savage. Discovered first by Spaniards, and named after the Marquis de Mendoza, Viceroy of Peru, they were revisited in 1774 by Cook, who judged the naked Marquesans the finest people he had seen in the South Seas, if not in any part of the world. They were warlike as well as handsome. When the French, sixty years ago, began to interfere in the native feuds, and went on to proclaim with shot and shell their suzerainty over the group, it was long before they

made any resolute attempt to occupy these islands, which were won by persistent missionary heroism as much as by force of arms, the inhabitants being at the same time thinned out by small-pox and by kidnapping Peruvian ruffians. Half a century has brought about a great change, which R. L. Stevenson, an appreciative admirer both of scenery and people, aptly compares to the transition state of the Highlands after the Jacobite risings. "In both cases an alien authority enforced, the clans disarmed, the chiefs deposed, new customs introduced, and chiefly that fashion of regarding money as the means and object of existence. The commercial age in each, succeeding at a bound to an age of war abroad, and patriarchal communism at home. In one the cherished practice of tattooing, in the other a cherished costume, proscribed. In each a main luxury cut off; beef, driven under cloud of night from Lowland pastures, denied to the meat-loving Highlander; long-pig, pirated from the next village, to the man-eating Kanaka. The grumbling, the secret ferment, the fears and resentments, the alarms and sudden councils of Marquesan chiefs, reminded me continually of the days of Lovat and Struan."

Once far more thickly populated, the Marquesas have now only a few thousand inhabitants, of whom half are claimed as Catholic converts. The whole group of some dozen islands, whose names have been repeatedly changed by visitors of different nations, lie about 750 miles to the north-east of Tahiti. They are sometimes distinguished as the Marquesas proper on the windward side, and the Washington Islands to the north-west of these. Seen from the sea, they form points of bold volcanic scenery, standing up from the surf in precipitous cliffs, behind which a chaos of ridges and ravines rise to peaks several thousands of feet high. Travel appears hardly possible among the matted steeps and clefts, where silvery cascades pour down into rich openings upon the sea. Each clan is confined to its own valley, walled off from hostile neighbours, and with often no road out but by water. An enterprising youth seeking fortune in any other way was like to find it in the form of supplying a feast to his hereditary enemies.

Under such conditions, the Marquesans have, better than other islanders, preserved the old features of Polynesian life. Their reputation for savagery seems to have been exaggerated, no doubt through their tattooing and unblushing cannibalism, which, however, was one of the fierce joys of victory, and South Sea epicures have seldom shown much appetite for white men, whose flesh they find too salt. To strangers they have often shown themselves friendly and hospitable, manners being a stronger point with them than morals. There is no question as to their naked beauty.[1] Tall, olive-skinned, often hardly

[1] Herman Melville's *Typee*, though in form a romance, is praised by later visitors for the spirited fidelity of its descriptions; and this is the picture he draws of a Marquesan chief in full fig. "His aspect was imposing. The splendid, long, drooping tail-feathers of the tropical bird, thickly interspersed with the gaudy plumage of the cock, were disposed in an immense upright semicircle upon his head, their lower extremities being fixed in a crescent of guinea-beads which spanned the forehead. Around his neck were several enormous necklaces of boars' tusks, polished like ivory, and disposed in such a manner as that the longest and largest were upon his capacious chest. Thrust forward through the large apertures in his ears were two small and finely-shaped sperm-whale teeth, presenting their cavities in front, stuffed with freshly-plucked leaves, and curiously wrought at the other end into strange little images and devices. These barbaric trinkets, garnished in this manner at their open extremities, and tapering and curving round to a point behind the ear, resembled not a little a pair of cornucopias. The loins of the warrior were girt about with heavy folds of a dark-coloured tappa, hanging before and behind in clusters of braided tassels, while anklets and bracelets of curling human hair completed his unique costume. In his right hand he grasped a beautifully carved paddle-spear, nearly fifteen feet in length, made of the bright koar-wood, one end sharply pointed, and the other flattened like an oar-blade. Hanging obliquely from his girdle by a loop of sinnet was a richly decorated pipe, the slender reed forming its stem coloured with a red pigment, and round it, as well as the idol-bowl, fluttered little streamers of the thinnest tappa. But that which was most remarkable in the appearance of the splendid islander was the

darker than Italians, and with almost Caucasian features, their statuesque forms are set off by striking ornaments and by a sometimes almost complete coat of tattoo, worked in intricate and tasteful patterns that turn a man into a walking work of art from the age when he painfully assumes this *toga virilis*, the delicate blue lines lasting a fair lifetime, only in wrinkled dotage blurring and fading, unless the native dandy submit to have himself touched up afresh. The whole of his back, for instance, may display a branching tree, while his limbs are adorned by smaller designs, all conceived with an eye to general effect. This school of art is now fast declining under the disapproval of French officials; and the Catholic missionaries impose clothes, while their Mormon competitors set an awful example in the high black hats and long coats of Christendom. Tattooing was much less in fashion for the women, who are said to use means rather for whitening the skins they do not coyly hide, but a few blue lines about the lips passed as beauty spots. The use of canoes was here interdicted to women by a strong taboo, which made them all the better swimmers, so that ships casting anchor in a Marquesan harbour would soon be boarded by a bevy of mermaids not even in bathing-costume. The men are at home both on and in the water, and show great skill in making and carving their boats. Their houses are singular in being raised upon platforms of stone, the structure itself a wickerwork of posts, canes, and woven boughs thatched with leaves.

Each valley was fiercely independent; but the French have forced the clans to recognize superior chiefs, who serve as figure-heads to their authority, the machinery of which is local administrators, and a gendarme established as overseer of each group of population. The seat of government is on the island of Nukahiva, where the capital is Taiohai, a port at one time used as a French convict-station, not much to the improvement of the natives. A still active cause of demoralization is the Chinese settlers, who have introduced their opium vice to help in killing off this naturally fine people, on Nukahiva dwindled from thousands to hundreds in a century. In the meanwhile, the survivors have been brought to wear shirts, when not too lazy to put them on, and to buy umbrellas, matches, soap, and other superfluities at exorbitant prices from the French traders; but their paternal government has forbidden them to be supplied with spirits. At Taiohai lives the French ruler, usually a young naval officer, with old soldiers and sailors for his officials scattered here and there. The island was long ruled by a fat and kindly native "queen", who made a subservient tool to the French, and to passing travellers was liberal of audiences, at which she would take her clay pipe out of her mouth to give the presented one a hearty smack redolent of gin and of cocoa-nut oil. The fact of women being eligible for rule in these islands implies a certain social advance, discounted in this case by the survival of polyandry among their dying customs. Another sight of the place is, or used to be, the white man who for love of a dusky belle had himself tattooed all over, then she burst into unkind laughter at the figure he cut, which stirred the captain of a

elaborated tattooing displayed on every noble limb. All imaginable lines and curves and figures were delineated over his whole body, and in their grotesque variety and infinite profusion I could only compare them to the crowded groupings of quaint patterns we sometimes see in costly pieces of lace-work. The most simple and remarkable of all these ornaments was that which decorated the countenance of the chief. Two broad stripes of tattooing, diverging from the centre of his shaven crown, obliquely crossed both eyes—staining the lids—to a little below either ear, where they united with another stripe which swept in a straight line along the lips and formed the base of the triangle. The warrior, from the excellence of his physical proportions, might certainly have been regarded as one of Nature's noblemen, and the lines drawn upon his face may possibly have denoted his exalted rank."

man-of-war, for his part, into threatening to complicate the savage pattern with a cat-of-nine-tails.

Nukahiva contains fine scenery, compared to that of the Californian Yosemite. But still finer appears to be the island of Hiva-oa or La Domenica, to the south-east, which, with a length of 20 miles, is largest of the group, also the best cultivated and most populous. Here the chief place is Atuona, whose valley was styled by R. L. Stevenson "the loveliest, and by far the most ominous and gloomy spot on the earth". These quarrelling epithets are brought into harmony by the description of another visitor, Mr. Coan, who explains how the foreground is carpeted and festooned with greenery shut in by strangely broken heights and cloudy Cyclopean crags. "Some are round, some angular, some stratified, some laminated, some truncated, some pointed. They lie in all positions—horizontal, tilted, vertical—with heaps of scoria revealing their igneous origin. Rock is piled on rock, hill upon hill, ridge upon ridge, mountain upon mountain—serried, castellated, turreted."

As yet the recesses of the Marquesas are little explored. The whole white population is a few scores, chiefly officials, priests, traders, with waifs and strays of the old beach-comber class. The climate is healthy, and much of the soil highly fertile. Cotton has been tried here without much success; but the French have introduced several kinds of exotic fruit. The chief commercial product is copra; and a kind of edible fungus, found on other South Sea islands also, is exported to China. Indigenous animal life is very scanty. The cattle that have run fiercely wild among the interior heights were, of course, imported. On the shores a troublesome *no-no* fly is the chief nuisance; but insects and birds have been growing scarcer as we passed eastwards from Melanesian aviaries.

Of the main Polynesian archipelagoes there remain to be dealt with only Hawaii, or the Sandwich Islands, lying far apart in the northern hemisphere. Under New Zealand and Micronesia have already been mentioned several widely-scattered groups and points where the British flag flies. We have still to notice another chain of British posts upon the little-sailed equatorial sea between French Oceania and Hawaii. Suwarrow, Penrhyn, and other atolls, chiefly valuable for their pearl-shell, belong to the New Zealand government of the Cook Islands, from which they lie northward. Farther north, above the Equator, comes a group of which the chief is Christmas Island, so called because here Captain Cook kept Christmas. This is said to be the largest of Eastern Pacific lagoon islands; but of it, and of its neighbours Fanning Island, Washington Island, and Palmyra, there is little else to say but that they have been visited for guano, supplied by the sea-birds that are their chief inhabitants. Palmyra is less out of the way than the rest, being on the main line of traffic between Honolulu and Auckland, which passes Samoa. These islands have recently come into note by serving as resting-points for an "all red" telegraph line that touches none but British soil as it crosses the world. This longest of cables has two southern ends, in Queensland and in New Zealand. Uniting at Norfolk Island, the line is carried on to the Fijis, and after threading its way nearly 1900 miles through the South Sea groups, finds a central repairing-station on Fanning Island, whence nearly 3500 miles of sea bring it to Vancouver, to be connected by Canadian wires with the Atlantic.

HAWAII (SANDWICH ISLANDS)

The Sandwich Islands, eight in number, Hawaii much the largest of them, Oahu the best populated, make an important but separate part of Polynesia, with characteristics and circumstances of their own entitling them to the same independent position as we have given the Fiji Islands. They lie in the North Pacific, just within the tropic line, almost equidistant (over 2000 miles) from Asia, North America, and the South Sea archipelagoes. There is some reason to suppose that Hawaii, if not Savaii, was the original cradle of the Mahori race that has spread its settlements as far as New Zealand. The other islanders are found looking with a certain respect towards their kinsmen above the Equator; and the rapid civilization of Hawaii has been taken as an example for distant southern groups.

When Cook's discoveries first brought it into our field of vision, this archipelago was well peopled by tribes in a comparatively high state of barbarism, though at frequent war with each other. Cannibalism was not evident among them: it is a question if this had ever been practised here. They preserved their food by salt obtained from artificial ponds of sea-water, which were also much used for keeping fish. The chiefs wore costly cloaks and head-dresses of yellow plumage, taken from a bird that has only one such feather growing under each wing, so that the collection of the material must have been a matter of much labour; and before them, as banners, were borne bunches of plumes upon tall poles. The warriors had stout mats that served them for armour. They worshipped gods represented by huge wicker-work idols, adorned with feathers, red cloth, pearl-shells for eyes, and dogs' teeth set in their mouths. They had a priesthood, or sacred caste, divided into classes, and making pretensions to astronomical science as well as to mere jugglery; their temples were sometimes large and elaborate; and what seems the most notable institution of their religion was the sanctuaries or "cities of refuge", to which the man-slayer, the captive, the destined victim might fly to claim the sure protection of taboo. Cook, taken at first for an avatar of the god Lono, the Vishnu or Apollo of their pantheon, was so well received as to give him a high idea of this country, which he named after his patron, the Earl of Sandwich. It was on his return to repair one of the vessels, that, familiarity having perhaps worn reverence thin, a misunderstanding arose from some not fully explained cause; the white men appear to have been aggressive; and in a casual fray the great navigator fell stabbed in the back at a spot on the west coast of Hawaii, now marked by a monument to one who was practically the pioneer of South Sea voyaging, though anticipated in some of his discoveries by Spanish and Dutch sailors.[1]

[1] Mythologists of the school of Grant Allen declare it "now pretty certain that Captain Cook was killed by the people just *because* he was a god, perhaps in order to keep his spirit among them".

In more than one Polynesian archipelago we have seen how its first acquaintance with the civilized world was followed by consolidation of power in the hands of a native conqueror, a fact probably related to the introduction of firearms. The Napoleon of the Sandwich Islands was Kamehameha, a Hawaiian chief who came to be known as the Great, when, by means of an armada of sailing vessels equipped with small artillery, he had brought all the islands under a dominion that fused their warring clans into a people. It has been conjectured that he had Spanish blood in his veins; he certainly was served by white men, the most respectable of them, John Young, an English boatswain, who long played a part in Hawaiian history. Kamehameha was already a personage at the time of Cook's visit. In the latter part of his life he reigned with unquestioned authority, organizing, legislating, and tyrannizing in so masterful manner, that for the nation his name looms through such a halo of awe and pride as gathered about that contemporary usurper in France, both perhaps ignorant of each other's existence. Kamehameha's glimpses into civilization were mainly through America and China, though Australian convicts and Spanish pirates helped him to some distorted views of it. He took to trading in sandal-wood, one of the earliest treasures of the Pacific, so much in demand among Chinese worshippers that it has been almost exterminated on most of the islands. Intercourse with older nations forcing upon him some notion of their advantages, he made enquiries as to Christianity, but refused to be converted, and died a heathen in 1819.

Photo. Rice & Perkins
Native Girl, wearing *Leis*, Hawaii

Yet under his long reign, the national superstitions had been shaken and a way opened for the missionaries who soon after his death appeared upon the scene. His widow, Queen Kaahumanu, was converted; and if his son Kamehameha II loved whisky better than Bibles, he abolished taboo and allowed the idols to be burned. This king visited London, and died there of measles after a short rule. He was succeeded by his brother Kamehameha III, in whose reign of thirty years was carried out the national conversion, along with a political revolution shaped partly by English, partly by American influence. The first missionaries were American Puritans, who stamped upon the plastic people their own patterns of doctrine, morals, and law, as far as republican institutions could be adapted to a venerated monarchy. The Christian religion was established; a constitution was framed, with parliament, ministry, judiciary, and taxes; then

the Hawaiian monarchs more or less earnestly addressed themselves to bring about the welfare of their people through civilizing agencies. Their dignity was much tempered by drunkenness; and sometimes the real power seems to have been in hands of a regent or prime minister. The successive Kamehamehas were not always legitimate heirs in our sense, some of them adopted into the royal family; but no dynastic complication arose. They were successful in preserving the independence of the islands, threatened in turn by Russia, France, and England. The American influence became the predominant one, even though the Puritan teachers lost their exclusive pastorate. The first Roman Catholic missionaries were discouraged to the point of persecution; but in the end they gained a share in the work of conversion, and their adherents seem now to be in a slight majority. Kamehameha IV, married to a grand-daughter of John Young, and affected by English sympathies, brought an Anglican mission to Honolulu. Now all churches have fair play, even the Mormons, who found their way here when they seemed like to be turned out of Utah.

With some jolts the constitution went fairly well till 1873, when Kamehameha V died without heirs, ending the line of the conqueror. A high chief named Lunalilo, by the whites "Prince Bill", was quietly elected to the throne, but he died next year without naming a successor, the choice of whom brought forth a serious discord. Among the natives had been rising a patriotic resentment against the foreigners, whose numbers grew with the growth of San Francisco, now the archipelago's chief link to the rest of the world. The election of the chief Kalaukaua, by a parliament accused of corruption, led to an angry tumult in favour of the popular candidate Queen Emma, widow of Kamehameha IV. English and American marines had to be landed to restore order. Kalaukaua, when settled on the throne, showed the native jealousy of foreign domination, along with a childish ambition fostered in him by a tour round the world, when he was much taken by the crowns, palaces, cannons, and other toys of his brother monarchs, and is said to have formed a scheme for making himself head of a Polynesian empire. He was, however, too weak and dissipated to play the despot, falling into the hands of unworthy advisers, chief of them a Mormon named Gibson, whose antecedents included an obscure filibustering adventure and long imprisonment in Dutch Batavia. The corruption and demoralization of this government stirred the white settlers almost to armed rebellion; but their discontent was for a time allayed by the dismissal of Gibson and amendments to the constitution granting suffrage to the whites. In 1891 the king died on a visit to San Francisco, leaving the country in debt and disorder. He appointed as successor his sister Liliuokalani, who, not content to reign without governing, tried to play the queen in an arbitrary and reactionary spirit. The white citizens were after two years provoked into a revolution, carried out in truly American fashion by a mass meeting and declaration of a republic, with Judge Sandford B. Dole as its president. This was looked on as only a temporary expedient, annexation to the United States being requested by the leaders, but refused under President Cleveland's administration. The queen's partisans made an attempt at armed counter-revolution, easily put down by the republicans. During the next few years American public opinion became converted to a policy of expansion. France and England had been warned as to the Sandwich Islands "Hands off!" The great republic began to fear that the little one might fall into the hands of Japan. When President M'Kinley came into

office Hawaii was annexed; and in 1900 turned into a Territory of the United States.

Meanwhile the Hawaiians had been dying out at an alarming rate, till at the time of the annexation they formed a minority of the population, their place filled by more enduring immigrants. Cook reckoned them at 300,000, probably too high an estimate. In 1906 they were calculated as 192,000 people, of whom, in round numbers, not 40,000 were natives or half-castes, but over 60,000 Japanese, besides a smaller number of Chinese, whose immigration is now restricted; and of the rest, the largest part were Portuguese, chiefly from Madeira and other Atlantic islands, with a few thousands of Americans, English, and miscellaneous Europeans as the cream of this gathering. The natives, more intelligent than industrious, let themselves be elbowed off their own soil by those foreign labourers, imported to work the sugar plantations which have been the main point of American enterprise. This people readily take on a veneer of civilization. Many of them speak English; all of them read and write their own language, and profess some form of Christianity. But the churches, standing like milestones along the coasts of some islands, are too large for their shrunken congregations. Once-thriving villages and taro-fields are often overgrown with guava scrub, if not with plantations. The descendants of sturdy warriors dwindle and decay in secure peace. By the Chinese they have been infected with the demoralizing vice of opium-smoking. Strict temperance laws have not hindered them from brewing new intoxicants for themselves, as well as their own forbidden kava. Among the diseases and the wasting vices caught from strangers, leprosy takes increasing toll of life. Unless something arrests this sad decline, in another generation the islands will have a motley exotic population, including half-castes of different breeds, the native women

Shrimp-Catcher, Hawaii

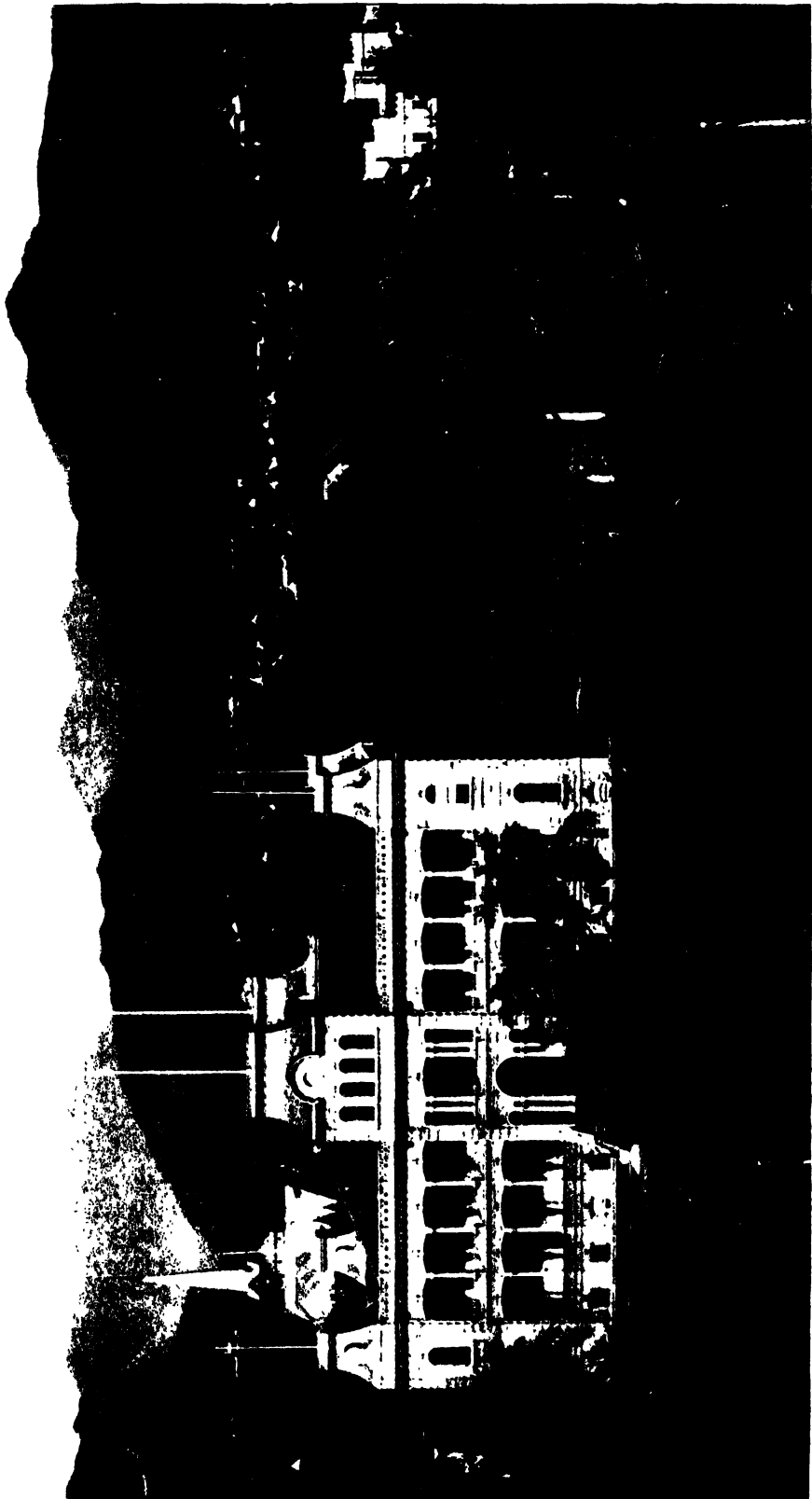



Photo. Rice & Perkins

Photo. Rice & Perkins, Honolulu

The Capitol, Honolulu

of the lower class often marrying industrious Asiatic coolies, while for the last century many of the chief families have had European or American blood in their veins.

The Sandwich Islands might well be coveted as a home by inhabitants of less fortunate climes. In the last generation they have become a health-resort for weakly Americans. They enjoy a genial and equable temperature, the thermometer usually ranging from 70° to 80° F. on the shore, with a bracing change of 4° lower for every 1000 feet of altitude on their mountain heights. Their almost perpetual summer is cooled by frequent rain, and by trade-winds blowing steadily for three-quarters of the year; but hurricanes keep aloof, and thunder-storms are seldom severe. Their chief trial is terrific outbursts of volcanic force, in eruptions, earthquakes, and tidal-waves, that now ruin the soil for ages, and then afford a bed on which the abundant moisture can nurse tropical greenery. To visitors coming from the exuberance of Samoa or Tahiti, these islands appear comparatively poor; but their oases strike the inhabitants of harsher climes as types of paradise. A strong contrast is generally shown by the windward and leeward shores, the rough outlines of the former half-hidden by forests and plantations, the latter a desert of dust and ashes or black blight overflown from the craters, which continue to vomit the bowels of the islands upon their extending shores. The island of Hawaii, especially, offers a rare variety of colour, from the snow cap of its loftiest summit to the lively tints of vegetation on one side, and on the other its rusty, grimy plains stretching down to a green-and-white fringe along the blue of the ocean.

The flora appears rich in its effect of profuse luxuriance, where our hothouse blooms grow as weeds. The chief native crop was the taro, or turnip of the Pacific, here called *kalo*, through the poverty of clear-sounding consonants that makes *k* and *t*, *r* and *l* interchangeable in Polynesia. The principal plantation is sugar-cane; rice, coffee, bananas, and other fruit being largely grown, and experiments made in cotton, grain, &c. Some high plains are used for cattle-grazing, sheep also being more successfully reared here than on other groups; and some of the mountain wildernesses are infested by wild or half-wild herds that give the most exciting taste of adventure. Like the other Pacific islands, these have no wild beasts, except rats and mice, and hardly any quadrupeds that have not been imported. They are, indeed, rather better stocked with birds, having many remarkable species of their own, distantly related to American, Australian, and Asiatic forms, notably the honey-suckers, from whose feathers were made those cloaks of state, and the scarlet tropic-bird that so often flashes through the forest shades. On these islands there is an extraordinary variety of brilliant snails and other land shell-fish. Frogs have been bred to play the part of natural enemy to destructive insects, some of them also foreigners, such as a small bee which travelled in American timber, and has the bad habit of boring into trees so as literally to "honey-comb" them into destruction. The mongoose was introduced to make war on a plague of rats, but proves a disappointing ally, as he prefers poultry, and has a specially sweet tooth for the eggs of pheasants that are another importation, as are deer, and several foreign birds, such as the pert English sparrow so much at home abroad, and the impudent Indian minah. Among the colonists are ostriches, the rearing of which has been tried here as in Australia and New Zealand, so that South Africa was moved to put a heavy export duty on their eggs. Pigs and poultry are the chief domestic animals. The Portuguese take to dairy-farming, as the Chinese to growing rice and the Japanese to sugar-plantation

work. Horses, mostly of a poor breed, are very common, the lazy Kanakas being now much at home on the back of an animal which some still living may remember to have first beheld with terrified awe. These steeds are as active as their owners in scrambling up and down the precipitous paths which often do duty for roads. Three of the rugged islands, however, have now the beginning of railways; and not only are telegraph wires widely spread, but the Marconi system was soon brought into use for inter-island communication.

The eight inhabited islands, with some smaller islets, extend obliquely from south-east to north-west along a line of 400 miles, and have a combined land area of 6700 square miles. Nearly twice as large as the rest put together is Hawaii, the southernmost of the group; while Oahu, most northerly but one, only 600 square miles, has the importance of containing the capital, Honolulu. A bay protected by a natural breakwater of coral makes a deep harbour, on which at first sight Honolulu appears hidden in its greenery, pierced by a church spire here and there. Then, landing on the busy wharves, one finds paved streets and showy shops, with tramways, cabs, electric light, telephones, and public buildings such as the Opera House, hospitals, schools, the Polynesian Museum, containing a rich collection of relics of the near past that seems so far away, and the fine stone palace where the last king was afraid to live in dread of earthquakes. In front of the House of Parliament stands a bronze statue of Kamehameha I, who might well wear a look of amazement at the changes a century has wrought here. There are several pretty parks, one showing lakes adorned with water-lilies and gold-fish, where a Hawaiian band of forty performers plays excellently under the baton of a German leader. But most of the place seems one great park, in which bungalows, cottages, and huts are roomily scattered among groves and gardens, rich in such flowers as the night-flowering cereus, that, along one hedge hundreds of yards long, comes into bloom by thousands of snow-white cups, to be photographed under a flash of light as they waste their rich perfume on the darkness.[1]

[1] "We drove along roads with overarching trees, through whose dense leafage the noon sunshine only trickled in dancing, broken lights; umbrella-trees, caoutchouc, bamboo, mango, orange, bread-fruit, candle-nut, monkey-pod, date and cocoa palm, alligator-pears, 'prides' of Barbary, India, and Peru, and huge-leaved, wide-spreading trees, exotics from the South Seas, many of them rich in parasitic ferns, and others blazing with bright, fantastic blossoms. The air was heavy with odours of gardenia, tuberose, oleanders, roses, lilies, and the great white trumpet-flower, and myriads of others whose names I do not know, and verandas were festooned with a gorgeous trailer with magenta blossoms, passion-flowers, and a vine with a mass of trumpet-shaped, yellow, waxy flowers. The delicate tamarind and the feathery algaroba intermingled their fragile grace with the dark, shiny foliage of the South Sea exotics, and the deep-red solitary flowers of the hibiscus rioted among familiar fuchsias and geraniums, which here attain the height and size of rhododendrons. Few of the new trees surprised me more than the papaya. It is a perfect gem of tropical vegetation. It has a soft, indented stem, which runs up quite straight to a height of from 15 to 30 feet, and is crowned by a profusion of large, deeply-indented leaves, with long footstalks, and among, as well as considerably below these, are the flowers or the fruit in all stages of development. This, when ripe, is bright yellow, and the size of a musk melon. Clumps of bananas, the first sight of which, like that of the palm, constitutes a new experience, shaded the native houses with their wonderful leaves, broad and deep-green, from 5 to 10 feet long. The bread-fruit is a superb tree, about 60 feet high, with deep-green shining leaves, a foot broad, sharply and symmetrically cut, worthy, from their exceeding beauty of form, to take the place of the acanthus in architectural ornament, and throwing their pale-green fruit into delicate contrast. All these, with the exquisite rose-apple, with a deep red tinge in its young leaves, the fan-palm, the chirimoya, and numberless others, and the slender shafts of the cocoa-palms, rising high above them, with their wavy plumes and perpetual fruitage, were a perfect festival of beauty. In the deep shade of this perennial greenery the people dwell. The foreign houses show a very various individuality. The peculiarity in which all seem to share is, that everything is decorated and festooned with flowering trailers. It is often difficult to tell what the architecture is, or what is house and what is vegetation; for all angles, lattices, balustrades, and verandas are hidden by jessamine or passion-flowers, or the gorgeous, flame-like bougainvillea. Many of the dwellings straggle over the ground without an upper story, and have very deep verandas, through which I caught glimpses of cool, shady rooms, with matted floors. Some look as if they had been transported from the old-fashioned villages of the Connecticut Valley, with their clap-board fronts painted white, and jalousies painted green; but then the deep veranda in which families lead an open-air life has been added, and the chimneys have been omitted, and the New England severity and angularity are toned down and draped

Photo. Rice & Perkins, Honolulu

Surf Boating, Hawaii

This town, which its new masters will now call a city, has some 40,000 inhabitants, making up a piebald medley of races and nations. At the Royal Hawaiian Hotel, an American journalist notes, "the proprietor was a Dane; the manager an Englishman, a graduate of Oxford; the day-clerk was a Portuguese, married to a Japanese lady; the night-clerk a Chinaman; the head steward was an Alsatian, married to a Parisian woman; the cook was a Greek; the barber a German; one of the bell-boys came from the Canary Islands, and the others from the Azores". One of the sights is the Chinese quarter, with its joss-house and theatre, but also with its school, including a fully-equipped kindergarten. Everywhere, as yet, are seen the brown-skinned Kanakas, the men in cotton shirts and trousers and straw hats, the women in loose, gay-coloured sacks of muslin or calico, almost all bedecked by *leis*, garlands of bright flowers or feathers, sometimes changed several times a day, which may be called the national costume, for the people would wear little else if left to themselves. The better class, indeed, begin to ape European fashions and to despise the beautiful *leis*, which seems a pity in the eyes of those they imitate; while some, educated in Europe or America, are able to carry off a luxurious style of living in well-furnished houses, where a mosquito-net makes the most desirable luxury. "The mosquito", sighs one stranger, "is the serpent in this paradise." Some of the white ladies, for their part, adopt the loose riding skirt, in which their Hawaiian sisters, sitting astride on horseback, dash through thick and thin, groups and troops of them, with such recklessness that one does well to keep out of the way of these mirthful Amazons.

To see the people at their liveliest, one should go, especially of a Saturday afternoon that is high holiday, to Waikiki, the sea-side resort of the city, about

out of sight by these festoons of large-leaved, bright-blossomed, tropical climbing plants. Besides the frame-houses there are houses built of blocks of cream-coloured coral conglomerate laid in cement, of *adobe*, or large sun-baked bricks, plastered; houses of grass and bamboo; houses on the ground and houses raised on posts; but nothing looks prosaic, commonplace, or mean, for the glow and luxuriance of the tropics rest on all. Each house has a large garden or 'yard', with lawns of bright perennial green, and banks of blazing, many-tinted flowers, and lines of dracæna, and other foliage plants, with their great purple or crimson leaves, and clumps of marvellous lilies, gladiolus, ginger, and many plants unknown to me. Fences and walls are altogether buried by passion-flowers, the night-blowing cereus, and the tropæolum, mixed with geraniums, fuchsia, and jessamine, which cluster and entangle over them in indescribable profusion. A soft air moves through the upper branches, and the drip of water from miniature fountains falls musically on the perfumed air. This is mid-winter!"—Mrs. Bishop's *Hawaiian Archipelago*.

three miles out, where both white and brown bathers disport themselves in a smooth deep basin fenced in against sharks by the coral reef, and landwards by palm groves. To satisfy exotic modesty, dressing-rooms have been built along the beach, and bathing costumes are worn, at least of sea-weed on the part of native nymphs, but travellers not so long ago had to tell of most unconventional gambols and of the national sport of surf-riding on boards, that has now been replaced by a "shoot" on which the bathers toboggan down into the sea. On more unsophisticated shores, however, the amphibious athletes may still be seen diving under the rollers, pushing before them their pointed surf-boards, about

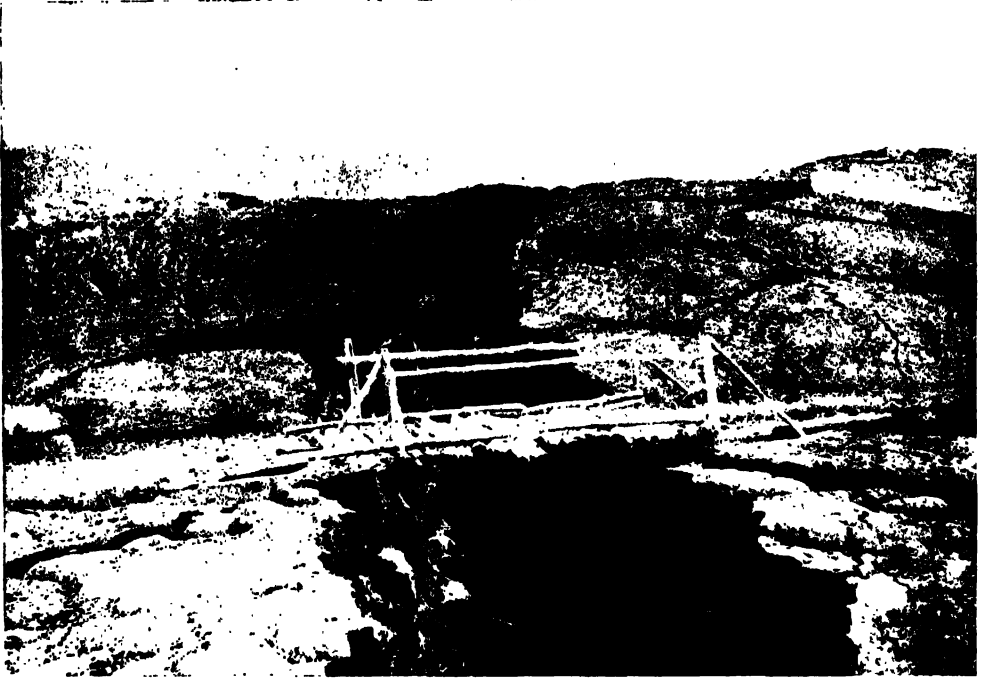
Photo. Rice & Perkins, Honolulu

Cliffs at the Nuuanu Pali, near Honolulu

four feet long, with which presently, sitting, kneeling, or standing, they saddle a big wave, to "rush in shorewards with the speed of a race-horse, on the curling crest of the monster, enveloped in foam and spray, and holding on, as it were, by the milk-white manes of their furious coursers". They are also adroit and bold in diving from astonishing heights. "Coasting" down steep slopes of grass instead of snow is another of their sports; and on a smooth surface they skim javelins and throw round stones between sticks with as much zest as if life was all such skittles. The Hawaiians are more given to childish games and to gambling than to work.

Farther along the bay is Diamond Head, a crumbling crater such as are frequent on the island. Another, known as the Punch Bowl, rises close behind the city, its walls so red that they seem still to be flowing from volcanic fires. The green plain of elevated coral reef is shut in by a mountain wall cut into sharp pinnacles and the precipitous faces called *pali*, that make another frequent feature of the islands' scenery. The Pali, one of Honolulu's lions, a

few miles away, is a gorge leading through the central backbone ridge to a line of broken crags that command a beautiful view, but have a dark memory, for here was the last struggle for Oahu's independence against Kamehameha, when its bravest warriors fell fighting around their chief, and despairing hundreds were dashed to pieces leaping over the lava rocks. On the road to this spot is the Royal Mausoleum in which the conqueror and his successors lie in turn at rest, with among theirs the coffin of the Scottish prime-minister, Wyllie, remembered as a chief European benefactor of this people. The whole island, round which a railway is now being run, behind its coral reefs and verdant shores, forms a mass of volcanic peaks, "gray and red, sun-scorched and wind-

Photo, Rice & Perkins, Honolulu

Earthquake Crack in Lava, Kilauea Crater

bleached, glowing here and there with traces of their volcanic origin", but also "cleft by deep chasms and ravines of cool shade and entrancing greenness".

The fires of Oahu have long been extinct, while Hawaii still presents the most stupendous volcanic phenomena brought to our full knowledge. On this island rise three igneous summits: Mauna Kea, nearly 14,000 feet, on the north; its neighbour, Mauna Loa, nearly as high, in the centre; and Mauna Hualalai, 8000 feet, on the west side. The crater peaks of Mauna Kea are now quiescent, though on its flanks appear signs of internal commotion. The two others are still fearsomely active at times; and off the west coast a submarine volcano has been known to stir the sea into boiling fury, at night shown by flickering coloured flames. The snowy dome of Mauna Loa is sometimes reddened by a glow that lights up the darkness for leagues around, then it may still pour rivers of lava down the hollow separating it from that other giant. But its angriest spot is the crater of Kilauea, on a buttress of its east side, 4000 feet above the sea. Here

yawns a pit 9 miles in circumference, containing a lake of ever-bubbling fire, whose reflection on the clouds appears 50 miles away.

Kilauea is quite a tourist show, reached by road from Hilo, a lovely haven on the windward side, blooming under constant threats of ruin from above. The way, 30 miles as a bird flies, winds upwards, now through tropical jungles or over green gullies, then upon gray coats of lava cooled into hummocks, coils, waves, pools, rivers, caverned bubbles and crusts of froth, edged by volcanic sand, among which, here and there, a patch of fern or grass has taken root, hints of the glorious vegetation that centuries may restore on such desolation. This is the *pahoehoe*, the smooth lava, for the most part indeed slightly roughened, but sometimes slippery as ice. Far worse to travellers are congealed streams of *a-a* lava, that has grained into a horrid surface of points and cracks or piled itself into impassable crags. Wild cattle, and hardy men employed in shooting them for their hides, are almost the only signs of life till one reaches the hotel on the very brink of the crater. The first impression tourists may have of this house is its being on fire, so thick around rise sulphurous fumes and steam that has been turned to use for vapour-baths, where at a height nearly equal to that of our highest mountain a blazing fireplace gives cheerful welcome.

The crater of Kilauea is a bowl of black cliffs in which a stormy ocean seems to have suddenly frozen and to be on the point of breaking up in a fiery thaw, its surface worked into whirlpools, cones, clefts, and rents breathing out a sulphurous glow. This fretting hollow is most unstable; the lava-bed sinks and swells for several hundred feet, and ragged ledges record the tide-marks of former floods; but the chief feature is commonly a lake or lakes of fire at the southern end, where a thinner crust is in almost constant agitation over such a blood-red glare that several observers confess to having found the sight unbearable, and all agree that words cannot picture its awe. "I think we all screamed," was Mrs. Bishop's experience when she stood at last looking down into this inner pit from a height of 35 feet; "I know we all wept; but we were speechless, for a new glory and terror had been added to the earth. . . . There were groanings, rumblings, and detonations; rushings, hissings, and splashings; and the crashing sound of breakers on the coast; but it was the surging of fiery waves upon a fiery shore. . . . It was all confusion, commotion, force, terror, glory, majesty, mystery, and even beauty. And the colour! Molten metal has not that crimson gleam, nor blood that living light!"[1]

[1] The lake is liable to change, and sometimes appears to be swallowed up. This is how it presented itself to one visitor, Mr. Spencer Howells (*An Island Paradise*):—"Before us was a crater half a mile wide and 250 feet deep; to the left innumerable cracks extended in broken lines—dark and horrible-looking places—apparently unfathomable; to the right the lava-blocks lay in confused masses, rising one behind the other till they became obscured by the sulphur steam which rolled out toward the Kau bluffs; while far below us, in the bottom of the pit, a roaring, spouting, seething lake of molten lava lashed itself in waves of blinding light that hissed and spluttered as they moved toward the centre, where the masses of gory lava were hurled high up in the air; to this was added the almost deafening roar. . . . The whole surface was moving. Along the margin cracks would appear, the glowing edges flashing now crimson, now green, as a great cake of semi-liquid lava floated off, leaving behind a fiery fringe sparkling like the tails of ten thousand tiny rockets; then, as it reached the middle of the basin, a fountain of dazzling whiteness would belch up through the cumulated drift and threaten to overthrow the banks. It was ever changing; never two minutes the same. Sometimes the flows would resemble trees, maps, or geometrical figures; but, as the centripetal force drew them onward, they would break and finally disappear. Meanwhile another floe would be ready, and would break off, only to float away and be swallowed up in the vortex. Now the gray lava at the edges would open and curl back, showing the white heat within, then the blood-red lips would close and furl over as though in fiendish ecstasy. Sometimes the fountain in the centre would die down, and the wave-motion become slower; but we could see, on the opposite side of the crater, a second fountain or whirlpool, heaving and wallowing like a gigantic salamander as it approached the other; then both would sink beneath the surface, and soon a hundred little jets would spurt up all over the lake, and hiss and gurgle and dance about like—well, like nothing else in all the world!"

Hell is the image that first rises to the mind of the spectator looking down upon such a horror of horrors. Never had superstition more terrible machinery. To the native religion this "Lake of Everlasting Fire" was the abode of their cruel deities, who never left it on errands of mercy, but only to receive sacrifice or to work fiery vengeance. The conical craters were taken for their houses; the roaring and crackling were the music of their dances, and they were supposed to sport on the flaming surge as the islanders on the surf of their coasts. Pele was the eldest sister of this fearsome family, specially venerated here as Artemis at Tauris or Aphrodite on Cyprus. To her the island paid tribute, throwing droves of living hogs and human victims into the lava torrents that her wrath might be arrested. The people long shuddered at the irreverence of white men who ventured to break off the glassy filaments of lava known as Pele's hair. The red berries that grow on the mountain side are sacred to Pele; and a native guide, faint and thirsty, has been found unwilling to touch them, not, at least, till he had tossed a few into the fire as an offering to its goddess. It served the new faith well that when idolatry was abolished by the king's command the volcano remained silent, else the voice of Pele would have scared the islanders back from the cross. A converted chieftainess helped Christianity not a little when she dared to defy Pele and her priestess on the brink of the crater. Still, many professing Christians are shy of approaching her natural temple; and it may be long before every outburst of the mountain's wrath ceases to call forth a spasm of backsliding into abject heathenism.

Not so many travellers have tried the ascent to the summit crater, where the cold proves almost unbearable beside another pit of unquenchable fire. One of them was the indomitable Mrs. Bishop, who tells us how this mountain is 180 miles in circumference at the base, and how its crest stands nearly three miles above the sea, here almost as deep. About 7000 feet up, on the leeward side, vegetation ceases, straggling and struggling a little higher on the wetter windward face; then comes a dismal stretch of table-lands dotted with craters, wrinkled with fissures, pitted with burst bubbles, and seamed by black streams of *a-a* lava, bristling into jagged points, like the charred stumps that may mark some course of ruin. What from below seems a magnificent dome, often hidden by mists, is found a desert of torn and blotched lava as large as London, made less repulsively perilous by frost and snow. At the summit yawns another gulf, six miles in circumference, in which fitfully swells up a great well of fire, whose roar may be heard, louder and louder, for the last two miles of the ascent, and which sometimes offers an overwhelming spectacle to those whose throbbing temples and straining eyes can bear the lurid vision revealed as in a dream at that trying altitude. Mrs. Bishop, who saw it under a favourable absence of wind, describes how, as soon as the sunset glow changed to a ghastly chill on the peaks around, this sooty crater came to life in glints of fire, burning like rows of blast-furnaces, and running together in an incandescent lake where blotches of black scum were whirled and swallowed by white-hot lava; and from the centre rose a fountain of fire, leaping up hundreds of feet, in jets crossing one another like wheat-sheaves, its fiery spray falling back with an audible clatter as of rocket-sticks. By daylight gleaming like molten gold, through the darkness its glare tinged the black cliffs around with rosy red, giving light enough to read by three-quarters of a mile away, and making the moon look blue in this weird illumination.

Hualalai, the lower summit on the west side, green with coarse grass and scrub to the top, is thickly set with cones and craters, some of them picturesquely lined by vegetation. But this mountain, too, has been in eruption since the islands were known; in 1868 it was split by an earthquake, and it cannot be depended on to withhold its part from the infernal bombardment that would keep the inhabitants in constant dread, if they had not grown up under the

Photo Rice & Perkins, Honolulu

Volcanic Fires, Hawaii

shadow of such perils. Earthquakes are here everyday matters; at times hundreds have been counted in a day, their succession so rapid that "the island quivered like the lid of a boiling pot". About a dozen violent eruptions are recorded in last century; and no one knows when either of Mauna Loa's cauldrons may not boil over again, flooding the island with fresh desolation. In 1881, a great lava stream crept down the mountain-side like a glacier of treacle at the rate of 75 feet an hour, stopping within a mile of Hilo, where, as a practical writer remarks, the value of real estate "fluctuates considerably"

under these circumstances. More destructive was the mud-flow that burst from the mountain-side in 1868, travelling so rapidly that it overwhelmed flocks, cattle, and human beings before reaching the sea in two hours. The sea, also, was stirred, drawing back to return in one of the disastrous tidal waves by which low islands and coast villages of the Pacific are so often drowned. The ground near Hilo was rent by a swollen river of red lava, loaded with glowing rocks, that, breaking out of its subterranean burrow, poured itself in a delta of fire to the sea, extending the coast-line half a mile. Thus Hawaii goes on being built up by plutonic forces which add new crests and promontories to its tormented mass.

The scenery so fiercely shaped is often grand and beautiful. A frequent feature is the deep gulches down which the streams dash their way through a bottom of rich greenery, in wet weather flooding so as to make travel almost impossible, where roads and bridges are as yet rare. A French traveller counted more than two such perilous passages for every mile of a journey along the coast. The dark precipice walls are threaded with countless waterfalls, breaking into spray lost on the thick jungle below, or falling into some "black, solemn, tree-shadowed abyss whose deep still waters only catch a sunbeam on five days of the year". The lava, as we have seen, forms black rivers that here and there tumble in petrified cascades. Its decomposition furnishes in time a marvellously rich soil. The district of Kona, on the west side, is renowned for its excellent coffee and oranges. The plain of Waimea on the north is given up to cattle and sheep raising, and has an invigorating climate at a height of 2500 feet, where dusty desert blends with open pastures, and one would hardly believe one's self in the tropics. On other parts of the island the forests have been ruined by various causes, by the greed of early sandal-wood traders, by the recklessness of both natives and settlers, by clearings for cultivation and by the destructiveness of cattle, as well as by the scorching and overwhelming streams of the volcano. But there are still many thickly-wooded nooks, as well as charming shows of fern, flowers, and foliage, from the gorgeous tassels of the lehua-tree to the glistening dagger-like "silver-swords" that grow high on volcanic slopes as the edelweiss of these fiery Alps.

The next member of the group is Maui, to the north of Hawaii, separated from it by a channel about thirty miles broad. This island, 760 square miles, consists of two mountain masses joined together by a low sandy isthmus. The larger south-eastern part is Haleakala, "House of the Sun", which has the distinction of being crowned by what is called the largest crater known in the world, luckily for its neighbourhood, long extinct.[1] The ascent is easily made, grass and scrub reaching to the top, where at a height of 10,000 feet suddenly opens a chasm 2000 feet deep, over 7 miles long, with a circumference of nearly 20 miles, its bottom studded with red cones, more than one as high as Leith Hill or Arthur's Seat, its sides cleft by two gaps through which the lake of hell-broth broke out to pour into the sea, where it has congealed in bare black tongues below slopes broken up by small farms. This island has many settlers, who, besides their sugar plantations, have introduced the Australian eucalyptus in the hope of restoring the regular rainfall, checked by destruction of the native forests. The chief place is Lahaina, on the north end, a port once much fre-

[1] It should be remembered that the Japanese crater of Aso-San is claimed as larger, and that that of Ambrym in Melanesia has not yet been examined.

quented by whalers. Off its shores, to the west, lie the smaller islands Lanai and Kahoolaui, the former an ancient sanctuary, now much devoted to sheep-rearing, the latter a desolate reef which at one time was used as a place of exile for offenders against Hawaiian majesty.

North-westward of Maui lies Molokai, an island of gloomy renown as place of seclusion for lepers. Leprosy is said to have appeared in these islands only half a century ago; and the Chinese are accused of introducing it. It spread with great rapidity through the native carelessness about infection, till in 1865, at the instigation of white men, the government took measures for the lifelong

Photo. Rice & Perkins, Honolulu

Native Grass Hut, Sandwich Islands

segregation of the unfortunates. This sad necessity did not readily commend itself to the easy-going Hawaiians. In its early stages the disease can often be kept secret; the infected were hidden away by their friends; "leper-detectives" had to be employed; and sometimes the authorities were resisted by force, while other patients voluntarily gave themselves up. No distinction can be made; from the royal family downwards, those on whom the fatal marks have broken out are periodically shipped over to Molokai, to join that colony of the doomed, their exile sometimes shared by devoted husbands or wives who must reckon on ending their lives by the same contagion.

Most pitiable will be the scenes of farewell when the lepers are borne away into hopeless exile. Their spacious prison is a plain on the north of Molokai, walled-in on one side by impassable mountains, on the other by a perilous coast, with only one landing-place, and that a difficult one. Once a month the settlement is visited by a steamer bringing provisions and letters. Its head-quarter is the village of Kalawao, where a hospital has been provided in which the poor

wretches may die amid all that skilful care can do for them. But many have a long respite to enjoy life as they can under the slow ravages of a disease that mercifully blunts the feelings. Signalled at first by a mere spot on the skin, it leaves the victim for a time the full use of his limbs and faculties. The lepers bask in the sun, work in their gardens, open little shops, learn trades, help those in more advanced stages of the disease. Their homes are often neat and pleasant, and almost to the end they preserve their love of personal adornment. One of the most painful sights here is ghastly spectres tricked out in gay dresses and wreaths of flowers. Gradually the tell-tale blotches spread; the skin becomes hideous; the face grows a horror; light dies out of the eyes; the limbs begin to rot away at their extremities; and thus by loathsome degrees the patients shrink up into "butt-ends of human beings", waiting for death. Among them are some white men, who have still a chance to show the masterfulness of their race, for governor, officials, hospital attendants, teachers, all are lepers. There is a school for the children of all ages, here made orphans. There are now Catholic, Protestant, and Mormon churches on the island, and a body of nuns devoted to the perfection of Christian charity. All over the world is known the name of Father Damien, who showed the example of condemning himself to this death in life, such a sacrifice as may draw to Rome souls scared from her by the fires of Smithfield.

Next to Molokai comes Oahu, the site of the capital; then a considerable stretch of sea cuts this off from Kauai, the most north-westerly of the islands, not so much visited by strangers, and beside it the islet of Niihua, that does or did belong to a Scottish family who had travelled half over the world in a floating home before finally settling down here. The people of Kauai were a bold and simple race, who did not readily fall in with the changes brought about by Hawaiian kings. Their island, rising to a central point of 6000 feet, seems comparatively tame in scenery, the volcanic action here being drowned by vegetation; and the lower levels are so rich that this is called the Garden Island. Among its curiosities are grand blow-holes, and the so-called "barking sands", which give out, when trodden in a dry state, a peculiar sound, supposed to be due to tiny cavities of their grains. The climate is rather cooler and wetter here; and if Mrs. Bishop was not so much struck by it as by Hawaii, she puts as the cause "a perpetual under-current of home-resemblance" beneath its belts of tropical greenery. "The dash of its musical waters might be in Cumberland; its swelling uplands, with their clumps of trees, might be in Kent; and then again, steep broken ridges, with glades of grass, suggest the Val Moutiers; and broader sweeps of mountain outline, the finest scenery of the Alleghanies." On this lamented author's book we have been fain to draw freely as one of the best about the Hawaiian Archipelago, whose charms she set forth so temptingly that, like herself, we may well be loth to say to these happy islands their own farewell salutation—*aloha!*

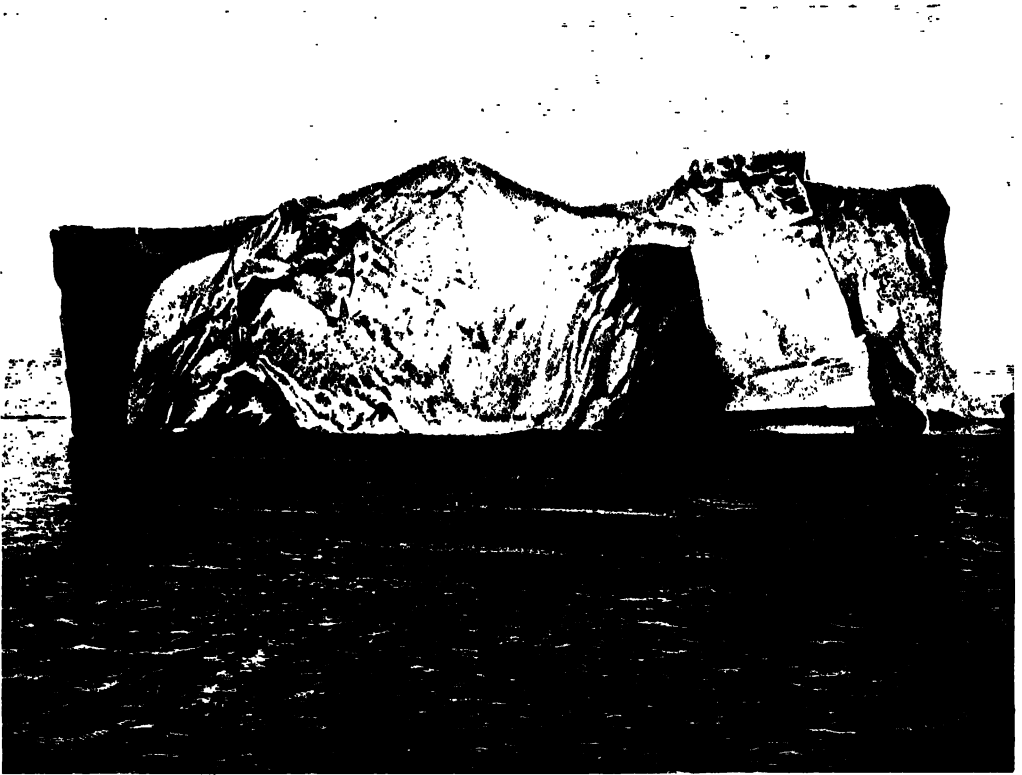
THE ANTARCTIC OCEAN

Little can be told for certain of the inhospitable Antarctic region that, still colder than in the same northern latitudes, more formidably bars man's approach to the South Pole. At present our maps only hint at vague outlines of what is surmised to be an ice-locked continent, its coasts here and there sighted and named by sanguine explorers. But the seeming continent is more and more found fretted by channels through the mainland or mass of islands buried under a mighty ice cap, which, as scientific Cassandras warn us, might some day break loose to whelm the warm earth under another glacial deluge from some fifty million cubic miles of ice, whose edges drift over far southern seas in tabular bergs often dwarfing those of the Arctic,[1] or in crumbling fragments that help to make navigation perilous.

The Antarctic lands have been comparatively neglected by such adventurers as still hope to win the secrets of the North Pole. The best-examined part hitherto has been Victoria Land, projecting about 30° south of New Zealand, where, more than sixty years ago, Sir James Ross found two mighty volcanoes flaming over the ice world, and named them from his ships Mount Erebus and Mount Terror. He was checked by a barrier of solid ice, in parts apparently 300 feet and 1000 feet thick; then after sailing a hundred miles along this stupendous cliff, ever unbroken, he still saw it stretching away as far as the eye could reach. A little to the south-east of Ross's farthest point, the highest latitude, till lately, touched at

[1] "The typical form of the Antarctic iceberg, as seen above water, and apparently the form which it always has when first set free on its wanderings, is very simple. The top is a nearly flat expanse of snow, and this is bounded all around by perpendicular cliffs. . . . The colouring of the southern bergs is magnificent. The general mass has a sugar-loaf-like appearance, with a slight bluish tint, excepting where fresh snow resting on the tops and ledges is conspicuous as being absolutely white. On this ground-colour there are parallel streaks of cobalt blue, of various intensities, and more or less marked effect, according to the distance at which the berg is viewed. Some bergs with the blue streaks very definitely marked have, when seen from quite close, exactly the appearance of the common marbled blue soap. The colouring of the crevasses, caves, and hollows is of the deepest and purest possible azure blue. None of our artists on board were able to approach a representation of its intensity. It seemed to me a much more powerful colour than that which is to be seen in the ice of Swiss glaciers. In the case of the bergs with all their sides exposed, no doubt a greater amount of light is able to penetrate than in glaciers where the light can usually only enter at the top. A large berg full of caves and crevasses, seen on a bright day, is a most beautiful and striking object. One small berg was passed at a distance which was of remarkable colour. It looked just like a huge crystal of sulphate of copper, being all intensely blue, but it seemed as if attached to, and forming part of, another berg of normal colour. Possibly it was part of the formerly submerged base, and of more than ordinary density. Only one other such was seen. The intensity of the blue light is ordinarily such that the gray sky behind appears distinctly reddened, assuming the complementary tint, and the reddening appears most intense close to the berg. At night bergs appear as if they had a very slight luminous glow, almost as if they were to very small extent phosphorescent. The sea at the foot of the bergs usually looks of a dark indigo colour, partly, no doubt, out of contrast to the brighter blue of the ice. Where spurs and platforms run out under water from the bases of the cliffs, the shallow water is seen to be lighted up by reflection of the light from these. The surf beats on the coast of an iceberg as on a rocky shore, and washes and dashes in and out of the gullies and caverns, and up against the cliffs. Washing in and out of the caves, it makes a resounding roar, which, when many bergs surround the ship, is very loud. So heavy is the surf, and so steep are their sides as a rule, that we did not see one on which we could well have landed from a boat." — H. N. Moseley's *Notes by a Naturalist.*

this end of the world, 78° 50′, was attained in 1900 by Mr. E. Borchgrevink, an Australian of Norwegian origin; but three years later the *Discovery* expedition reached 82° 17′; and its successor, under Lieutenant Shackleton, pushed ahead to 88° 23′, almost within 100 miles of the South Pole.

At the beginning of our century a combined international attack was made upon these fastnesses of nature, by four expeditions in friendly rivalry approaching them on different lines. An English expedition reached Victoria Land; to the west of which steered a German one; while still farther west, a Swedish party under Dr. Otto Nordenskiöld made for Graham Land, opposite Cape

Tabular Iceberg, Antarctic Ocean. (From a photograph.)

Horn; then, after the rest, set out a Scottish expedition, hoping to penetrate the Weddell Sea to the east of Graham Land. For sixty years no such vigorous attempt had been made to clear up the Antarctic mysteries. Three of these expeditions, unfortunately, had to return having accomplished little, the Swedish crew narrowly escaping with their lives from shipwreck. But the English ship *Discovery*, Captain Scott, R.N., was signally successful in adding to our knowledge of Victoria Land, where her people wintered 400 miles farther south than any previous adventurers. It was ascertained that this made part of a mountainous continent extending at least as far as 83° 20′. To the east was outlined a coast named King Edward Land, while to the west what had been christened Wilkes's Land by an American voyager two generations ago, was found to be, in part at least, non-existent. Revictualled from New Zealand, the explorers were able to remain among the ice till 1904, when, with little loss, they returned to receive the congratulations of Europe. In 1907 one of this

band, now honoured as Sir Ernest Shackleton, sailed again in the *Nimrod* to surpass the achievements of his comrades.

Fresh expeditions are on foot, and any year may further pierce this chill darkness, edged by cloudy shores, which on examination are sometimes found resolving themselves into islands or floating mountains of ice. In general, the Antarctic Pole differs from the opposite end of the world in presenting masses of land surrounded by water, whereas the North Pole region seems rather land-environed sea. Birds appear at least as plentiful as in the Far North, but less so other forms of animal life, such as the white bears that figure in Arctic voyages. To eke out what at present must be an imperfect account, let us say something of better-known islands which can serve as steps towards the Antarctic region.

To the west of Victoria Land, the Antarctic Circle faces the open Indian Ocean, where, a thousand miles or more to the north, a chain, lying near the course from South Africa to Australia, is formed by Prince Edward's Islands, the Crozets, Kerguelen's Land, Heard Islands, St. Paul's and Amsterdam Islands. These groups, hundreds of miles apart, are taken to be the broken tops of a mass of land that has subsided below the water, where the Antarctic currents come to chill the edge of the Indian Ocean. They are visited by whalers and sealers, and occasionally give refuge to castaways, whose lot is no cheerful one on those bleak volcanic rocks, wet, wind-lashed, and fog-bound at a latitude equal to that of southern England, with a climate of dismal equability. Their chief inhabitants are albatrosses, penguins, petrels, and other sea-fowl. The largest of them is Kerguelen, about 80 miles each way, its shores broken by deep fiords, rising inland into jagged mountains, over 6000 feet at the highest point. A volcano is believed to be still active in shaping its rocky scenery. As shipwrecked sailors have cause to know, it is hard to find anything that will burn among the grassy and mossy vegetation; but one peculiar plant, bearing the name of Kerguelen cabbage, grows in thick beds, as food for birds, and after much boiling can be made eatable by men, who use the blubber of the huge elephant-seal as fuel, smaller kinds supplying them with warm clothes, though here, as elsewhere, the fur-bearing seal has been killed down by demand for its costly spoils. Kerguelen's Land is so called from the French navigator who discovered it; and of late years France has thought worth while to annex this inhospitable island, while such names as Christmas Harbour, Betsy Cove, and Royal Sound hint that the fur of its seals was first sought mainly by another stock of mariner. The French government has let settle here a small Norwegian colony, with whale fishing as its chief object.

Opposite the Horn of South America, the Antarctic projection christened Graham's Land has its point broken into islands, the outermost of which are the South Shetlands and the South Orkneys. Active volcanoes have been noticed on what seems the mainland, where a height of apparently 7000 feet is called Mt. Haddington, while such names as Louis Philippe Land and Joinville Island record French exploration. The ice-packed seas here have been visited of late years by Dundee and Norwegian whalers in search of the right whale, as yet without success; but they found plenty of blubber seals, giant petrels, and other sea-birds, chief of them the "Emperor" penguin, standing four feet and upwards, "clothed in silken robes of black and white, and decked with gold and purple". The land is entirely snow-clad except on precipitous slopes, and even in summer the temperature hovers near freezing-point, when gales,

fogs, and snow squalls must be faced in turn; but halcyon intervals give glimpses of beauty seldom seen by human eye.[1]

A Citizen of the Antarctic (*Aptenodytes Forsteri*)

Some ten degrees north of this archipelago, opposite the Patagonian coast, are the Falkland Islands, with South Georgia to the east of them, which make a British crown colony. Malouines or Malvines is an older name given by former French and Spanish settlers. There are two main islands—East and West Falkland—with smaller islets making up about 6500 square miles. They lie in a latitude corresponding to the south of England; but their bleak climate and bare moorlands recall rather the north of Scotland, rain falling daily more often than not, yet to no excessive amount in the course of the year. Mr. Burn-Murdoch heard, as is seldom admitted by oldest inhabitants, that the climate had clearly improved in living memory, which may account for Darwin having taken what now seems too gloomy a view of this settlement. It is at least an equable climate and healthy enough for hearty settlers; but the same recent visitor tells us that, like other colonists, they ruin their digestions by excess in tea. The people number under 2000, much engaged in sheep-farming, which brings a strong Scotch contingent. Only the hardier fruits, such as gooseberries and red-currants, flourish at their Christmas mid-summer; but British vegetables can be grown with a little care. Fish, sea-birds, and rabbits are abundant, helping out mutton to keep the Falklanders in no risk of starvation. The little capital is Port Stanley, whose leading industry appears to be the repairing of ships, which may often be seen lying—some of them past repair—in this landlocked haven, escaped from the perilous rounding of Cape Horn. For here we are only 300 miles from the opening of the Straits of Magellan, and the Falklands, strictly speaking, are South American soil, to which, indeed, the Argentine Republic makes a claim, calmly ignored by an empire that holds estates all over the world.

[1] "To-day has passed, glistening in silky white, decked with sparkling jewels of blue and green, and we thought surely we had seen the last of Nature's white harmonies; then evening came, pensive and soothing and gray, and all the white world changed into soft violet, pale yellow, and rose. A dreamy stillness fills the air. To the south the sun has dipped behind a bank of pale gray cloud, and the sky above is touched with primrose light. Far to the north the dark, smooth sea is bounded by two low bergs, that stretch across the horizon. The nearest is cold violet white, and the sunlight strikes the farthest, making it shine like a wall of gold. The sky above them is of a leaden, peacock blue, with rosy cloudlets hanging against it—such colouring as I have never before seen or heard described. To the westward, across the gulf, we can just distinguish the blue-black crags jutting from the snowy Lomonds. Little clouds touched with gold and rose lie nestling in the black corries, and gather round the snowy peaks. To the south, in the centre of the floe, some bergs lie, cold and gray in the shadow of the bank of cloud. They look like Greek temples imprisoned for ever in a field of snow. A faint cold air comes stealing to us over the floe; it ripples the yellow sky reflection at the ice-edge for a moment, and falls away. In the distance a seal is barking—a low muffled sound that travels far over the calm water, and occasionally a slight splash breaks the silence, as a piece of snow separates from the field and joins its companion pieces that are floating quietly past our stern to the north, a mysterious silent procession of soft, white spirits, each perfectly reflected in the lavender sea."—W. G. Burn-Murdoch, *From Edinburgh to the Antarctic*.

Geographical and Commercial Survey

OCEANIA

Area and Population according to Natural Divisions

Islands and Groups.	Area in Sq. Miles.	Population.
AUSTRALASIA—		
Australia and adjacent islands	2,946,690	4,000,000
Norfolk Island	13	900
Lord Howe Islands	6	50
Tasmania and adjacent islands	26,215	180,000
Macquarie Islands	170	—
Royal Company Islands		—
New Zealand and adjacent islands	103,658	980,000
Auckland Islands	329	—
Campbell Islands	71	—
Antipodes Islands	20	—
Bounty Islands	5	—
Chatham Islands	375	450
Kermadec Islands	13	8
Total Australasia	**3,077,565**	**5,162,000**
MELANESIA—		
New Guinea and adjacent islands	310,940	700,000
Admiralty Islands	755 }	200,000
Bismarck Archipelago	17,425 }	
Solomon Islands	16,045	200,000
Santa Cruz (Queen Charlotte) Islands, with Swallow, Duff (Wilson), and Tucopia Groups	388	8,000
New Hebrides Islands, with Torres and Banks Groups	5,106	50,000
Loyalty Islands	1,059	15,000
New Caledonia	6,592	40,000
Chesterfield Islands	0.3	—
Fiji Islands, with Rotumah	8,040	115,000
Total Melanesia	**367,250**	**1,328,000**
MICRONESIA—		
Bonin and Volcano Islands	35	5,000
Other islands north of Marianne Group (Los Jardines, Ganges, Marcus, &c.)	8	—
Marianne Islands (Ladrones)	440	11,000
Palau (Palaos, Pelew) Islands	172 }	40,000
Caroline Islands	388 }	
Marshall Islands	155	15,000
Gilbert (Kingsmill) Islands	165	30,000
Nauru	2	1,500
Total Micronesia	**1,365**	**103,000**

Islands and Groups.	Area in Sq. Miles.		Population.
POLYNESIA—			
Hawaii (Sandwich) Islands ...	6,449	...	160,000
North Pacific Sporades (Midway, Johnston, Wake, Howland, Baker) ...	32	...	——
Fanning (America) Islands, or Central Pacific Sporades ...	258	...	200
Ellice (Lagoon) Islands ...	14	...	2,500
Phœnix Islands ...	16	...	60
Tokelau (Union) Islands ...	6	...	500
Manihiki (Penrhyn) Islands ...	53	...	2,000
Marquesas Islands ...	493	...	4,500
Wallis Islands ...	98	...	6,000
Samoa (Navigators') Islands ...	1,075	...	40,000
Tonga (Friendly) Islands ...	440	...	20.000
Niue (Savage Island) ...	36	...	4,000
Cook (Hervey) Islands ...	142	...	6,500
Society Islands ...	637	...	20,000
Tubuai (Austral) Islands ...	110	...	2,000
Tuamotu (Paumotu, Low) Islands, including Gambier Islands ...	360	...	7,000
Pitcairn Island ...	2 }	...	150
Ducie Island ...	—— }		
Easter Island ...	45	...	150
Sala y Gomez ...	2	...	——
Clipperton Island ...	2	...	——
Total Polynesia ...	10,270	...	276,000
Total Oceania ...	3,456,450	...	6,870,000

The Chief Pacific Islands

The following is a list, in the order of the above table, of the principal members of the island-groups of the Pacific Ocean. The figures in brackets after the names of individual islands denote their area in square miles.

Australia and Dependencies: Australia, an island-continent; Kangaroo (1680), Groote Eylandt (1550), Melville, Bathurst, Wessel Islands, Sir Edward Pellew's Islands, Wellesley Islands (Mornington, Bentinck, &c.); Prince of Wales Islands and others in Torres Strait; Frazer or Great Sandy Island, Stradbroke, Moreton, Bribie, Hinchinbrook, and others off Queensland coast; Phillip, French, Snake, off Victoria coast; Dirk Hartog, Rottnest, off West Australian coast; Norfolk Island (13); Lord Howe Island (6); Mutton Bird Island, Admiralty Islets, North Island, and Goat Island, the other members of the Lord Howe Group.

Tasmania and Dependencies: Tasmania (24,330), Flinders (802), King (425), Cape Barren (172), Bruni (140), Robbin's (38), Maria (37), Clarke (31), Schouten (11), and others; Macquarie Island (170), Royal Company Islands.

New Zealand and Dependencies: North Island (44,467), with Great Barrier and other adjacent islands; South (Middle) Island (58,525), with D'Urville, Secretary, Resolution, and other adjacent islands; Stewart Island (665); Chatham (348) and Pitt (24), the chief Chatham Islands; Sunday (11), Macaulay (1.2), Great Curtis and Little Curtis Island, L'Espérance, and Herald Islets, forming the Kermadec group; Auckland, Adams, and Enderby, the chief Auckland Islands; Antipodes, Bounty, and Campbell Islands.

New Guinea and adjacent islands: New Guinea (297,958), Frederick Henry (3937), Waigiu (1244), Salawatti (650), Misol (676), Batanta (232), Adi (112), Jobi (935), Biak, Korrido, Supiori (324); D'Entrecasteaux and Louisiade Islands, including Fergusson (510), Tagula (Südost, 383), Normanby (340), Goodenough (340), Rossel (297), St. Aignan (Misima, 107), Joannet (25), Welle (21), Heath (19), Goulvain (4), &c.

Admiralty Islands: Admiralty (753), Jesus Maria (62), Low (16), St. Gabriel (8), Hermit Islands, &c.

Bismarck (New Britain) Archipelago: New Pomerania (New Britain, 9610), New Mecklenburg (New Ireland, 5000), New Hanover (570), New Lauenburg (Duke of York, 22), French Islands, St. Matthias (255), Rook (272), Long (232), Krakar (Dampier, 123), &c.

Solomon Islands: Bougainville, with Buka (3860), Choiseul (2260), Isabel, with neighbouring islands (2255), Guadalcanar (2535), Malaita (2400), San Cristobal (1200), Kausagi (New Georgia, 770), Wella, Shortland Islands, Rennell, Bellona, Ongtong Java (Lord Howe Islands), &c.

Santa Cruz Islands: Santa Cruz (217), Vanikoro (63), Tupua (28), Kennedy (Motuiti, 20), Disappointment and other Duff (Wilson) Islands (7), Swallow (Matema) Islands (14); Tucopia Islands (25), comprising Tucopia, Anuda, and Fataka.

New Hebrides Islands: Espiritu Santo (1877), Mallicolo (876), Erromango (402), Aragh (Pentecost, 287), Ambrym (249), Maiwo (Aurora, 204), Sandwich (Efat, 200), Api (195), Tanna (147), 'Aoba (125), Aneitum (62), Malo (40), Mai (17), Tonoa (15); Banks Islands (178), including Gaua (Santa Maria), Vanua Lava, Uraparapara, Valua (Saddle), Mota; Torres Islands.

Loyalty Islands: Uvea (Uea or Halgan, 112), Lifu (Chabrol, 640), Maré (Nengoné, 297), &c.

New Caledonia and Dependencies: New Caledonia (6530), Isle of Pines (62).

Fiji Islands: Viti Levu (4112), Vanua Levu (2501), Taviuni (213), Kandavu (207), Ngau (58), Goro (49), Ovalau (48), &c.; Rotumah (14).

Bonin (*Ogasawara*) *Islands*: comprising the Parry Islands (chief are Muko and Nagatashima), the true Bonin Islands (Stapleton, Buckland, Peel), and the Bailey or Coffin Islands (Hahashima or Hillsborough).

Volcano Islands: Arzobispo (Forsano), Sant' Alessandro, Sulphur, and Sant' Agostino.

Marianne Islands: Guam (Guahan, 198), Saipan (71), Tinian (50), Rota (44), Pagan (39), Agrigan (13), Alamagan, &c.

Palau Islands: Babelthuap (116), Koroer (14), &c.

Caroline Islands: Ponape (134), Yap (80), Kusaie (43), Ruk group (51), &c.

Marshall Islands: Jaluit (35), Majeru (12), Arno (12), Ebon, Likieb, &c.

Gilbert Islands: Apaiang (16), Tarawa (16), Arorai (12), Nonouti (12), Taritari (12), Maiana (12), Maraki (12), Peru (14), Taputeuea, Apamama, Nukunau, Onoatoa, &c.

Hawaiian Islands: Hawaii (4015), Maui (728), Oahu (600), Kauai (544), Molokai (261), Lanai (135), Niihau (97), Kahulaui (69), &c.

Fanning Islands: Christmas (233), Fanning (15), Washington or New York (6), Jarvis, Palmyra.

Ellice Islands: Funafuti, Nukufetau, Nukulaelae, Nurakita (Sophia), Nui, Vaitupu, Nanomea, Nanomana, &c.

Phœnix Islands: Phœnix, Sydney, Hull, Gardner, Birnie, Enderbury, Swallow, &c.

Tokelau Islands: Atafu, Nakunono, Fakaafu, Nassau, Danger Islands, &c.

Manihiki Islands: Tongarewa (Penrhyn), Manihiki (Humphry), Rokahanga, Suvarrow, Vostok, Flint, Caroline, Victoria, Starbuck, Malden, Pukapuka (Danger), &c.

Marquesas Islands: Nukahiva (187), Hivaoa (155), Uapu (32), Fatuhiva (30), Tahuata (27), Hiau (26), Uahuka (26).

Wallis Islands: Futuna (44), Uvea (Uea or Wallis, 37), Alofa, &c.

Samoa Islands: Savaii (659), Upolu (335), Tutuila (53), Manua (Tau, 20), Ofu, Olosenga, Manona, Apolima, &c.

Tonga Islands: Tongatabu (166), Vavau (72), Eua (67), Haapai (26), Tofoa (21), &c.

Cook Islands: Rarotonga (31), Mangaia (25), Aitutaki (20), Atiu, Hervey, Takutea, Mitiaro, Mauki, Palmerston, &c.

Society Islands: Tahiti (402), Raiatea (75), Moorea (Eimeo, 51), Tahaa (31), Tapamanoa (28), Huahine (13), Borabora (9), Tetiaroa, Maitea, Maupiti, Mopiha (Lord Howe), Scilly Isles, Bellingshausen, &c.

Tubuai Islands: Tubuai (40), Raivaevae (Vavitao, 25), Rapa (16), Rurutu (20), Narurota (Hull, 4), Rimitara (4), Marotiri (Bass, 2), &c.

Tuamotu Islands: Rangiroa (21), Makemo (15), Apataki (15), Kawehi (12), Hao (12), Manihi (12), Takahau (14), Mangarewa (9), Anaa (8), Raroia (8), Elizabeth (Henderson), &c.

The Political Divisions of Oceania, with their Area and Population

Political Divisions.	Area in Sq. Miles.	Population.
BRITISH POSSESSIONS—		
The Commonwealth of Australia[1]	2,973,094	4,200,000
New Zealand and Dependencies[2]	104,700	1,000,000
British New Guinea, with dependent islands	88,430	350,000
British Solomon Islands[3]	13,085	140,000
Santa Cruz Islands	388	8,000
Fiji (Crown Colony)	8,040	115,000
Gilbert Islands	165	30,000
Ellice Islands	14	2,500
Phœnix Islands	16	60
Tokelau Islands	6	500
Tonga Islands	440	20,000
Fanning and other scattered islets[4]	280	350
Total British	**3,188,660**	**5,870,000**
GERMAN POSSESSIONS—		
Kaiser Wilhelm Land[5]	70,120	110,000
Bismarck Archipelago[6]	18,180	200,000
German Solomon Islands[7]	3,860	60,000
Marianne Islands (except Guam)[8]	242	2,000
Caroline and Palau Islands	560	40,000

[1] Comprises Australia and Tasmania, with dependent islands.
[2] Comprises New Zealand and immediately dependent islands, as given in previous table, together with Cook Islands, Savage Island, and most of the Manihiki Islands.
[3] All but Bougainville and its immediate dependencies (Buka, &c.) are British. The excepted islands are German.
[4] The Fanning group, Johnston, Howland, Baker, Pitcairn, Ducie.
[5] German New Guinea, the northern part of the eastern half.
[6] Includes the Admiralty Islands. [7] See note [3].
[8] All the Marianne Islands are German, except Guam, the largest, which is American.

Political Divisions.	Area in Sq. Miles.	Population.
German Possessions (*continued*)—		
Marshall Islands	155	15,000
Nauru	2	1,500
German Samoa Islands [9]	1,000	35,000
Total German	94,120	464,000
French Possessions—		
New Caledonia and Loyalty Islands [10]	7,652	55,000
Wallis Islands	98	6,000
Marquesas Islands	493	4,500
Society Islands	637	20,000
Tubuai Islands	110	2,000
Tuamotu Islands	360	7,000
Clipperton Island	2	—
Total French	9,350	95,000
United States Possessions—		
Hawaii	6,449	160,000
Eastern Samoa Islands [11]	75	5,000
Guam (in Ladrones) [12]	198	9,000
Midway and other scattered islets [13]	20	—
Total American	6,740	174,000
Dutch Possession—		
Dutch New Guinea	152,390	240,000
Japanese Possessions—		
Bonin and Volcano Islands	35	5,000
Chilian Possessions—		
Easter Island and Sala y Gomez	47	150
Anglo-French Protectorate—		
New Hebrides Islands	5,106	50,000
Total Oceania	3,456,450	6,900,000

The Races of Oceania

I. Oceanic Negroes:

A. Papuasians—

1. *Papuans* proper: New Guinea and E. Malaysia.
2. *Melanesians*: Admiralty Islands, Bismarck Archipelago, Louisiade Islands, Solomon Islands, Santa Cruz Islands, New Hebrides, New Caledonia, Loyalty Islands, Fiji.

B. Australians

1. *Australians* proper: Australia (where not settled).
2. *Tasmanians*: Tasmania (extinct).

II. Caucasic Peoples:

A. Polynesians—

1. *Maoris*: New Zealand.
2. *Tongans*: Tonga Islands.
3. *Tahitians*: Society Islands.
4. *Marquesans*: Marquesas Islands.
5. *Samoans*: Samoa.
6. *Hawaiians*: Hawaii.
7. Polynesians of other islands.

B. European Immigrants—

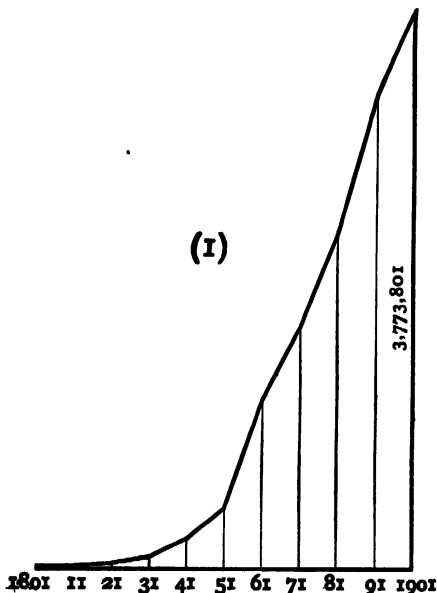
Notably *English*, *Scotch*, *Welsh*, and *Irish* in Australasia.

[9] Savaii and Upolu, the largest Samoan islands, are German; the rest, especially Tutuila, are American.
[10] Including Chesterfield Islands. [11] See note [9]. [12] See note [8].
[13] Midway, Wake, Marcus, &c.

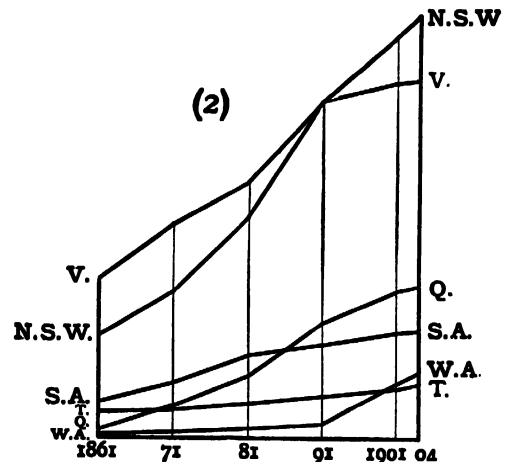
THE COMMONWEALTH OF AUSTRALIA

Area and Population

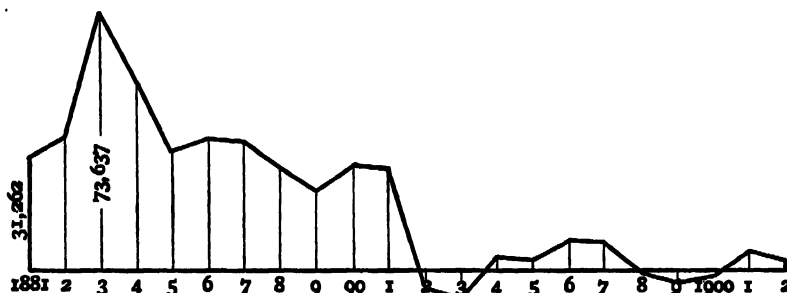
States.	Area in Sq. Miles.	Pop. (1891).	Pop. (1901).
EASTERN AUSTRALIA—			
Queensland	670,500	393,718	498,129
New South Wales	310,370	1,132,234	1,354,846
Victoria	87,885	1,140,405	1,201,070
Tasmania	26,215	146,667	172,475
CENTRAL AUSTRALIA—			
South Australia	380,070	320,431	363,157
Northern Territory	523,620		
WESTERN AUSTRALIA—			
Western Australia	975,920	49,782	184,124
Total	2,974,580	3,183,237	3,773,801
Unenumerated Aborigines	—	150,000	150,000
Total (round)	2,972,905	3,340,000	3,930,000

Movement of Population

The above graphs show (1) the growth of the population of the Commonwealth of Australia from 1801 to 1901, and (2) the growth of the population of each of the Commonwealth states from 1861 to 1904. Both the vertical scale (of populations) and the horizontal scale (of dates) in (2) are double the corresponding scales in (1).

The total increase in the Commonwealth population during the forty-six years 1861–1906 was 2,973,896, or about 260 per cent. This total was thus made up: Excess of births over deaths, 2,201,428; excess of immigration over emigration, 772,468. Only in Victoria and Tasmania did the loss by emigration during that period exceed the gain by immigration.

The average density of population in the whole Commonwealth, was 1.27 to the square mile in 1901, varying from 13.66 in Victoria to .19 in Western Australia. In 1861 the average density was .39, varying from 6.15 in Victoria to .02 in Western Australia. The density in Europe is about 100; in Africa, about 15.

The following table shows the number of assisted immigrants who entered each state of the Commonwealth up to 1906, distinguishing those entering before 1881 and those entering since. Only Queensland and Western Australia still assist immigrants.

State.	Number of Assisted Immigrants.		
	Prior to 1881.	1881–1906.	Total.
New South Wales	177,234	35,418	212,652
Victoria	140,102	—	140,102
Queensland	52,399	117,898	170,297
South Australia	88,050	7,298	95,348
Western Australia	889	7,614	8,503
Tasmania	18,965	2,734	21,699
Commonwealth	477,639	170,962	648,601

The following graph shows the net gain of population of the Commonwealth of Australia by excess of immigration over emigration in each year from 1881 to 1902 inclusive. Ordinates below the date-line denote an excess of departures over arrivals.

Population according to Birthplace

Country of Birth.	Number.
Australia	2,908,303
United Kingdom	679,159
Germany	38,352
China	29,907
Scandinavia	16,144
Polynesia	10,363
India	7,637
United States	7,448
Italy	5,678
Japan	3,593
Others	67,217
Total	3,773,801

The following table shows for each state of the Commonwealth and New Zealand the percentage of the population ot native and foreign birth:—

States.	Percentage born in State of Enumeration	Other Australasian States.	Other Countries, &c.
New South Wales	... 72.20	... 8.32	... 19.48
Victoria ...	... 73.23	... 6.19	... 20.58
Queensland ...	... 57.01	... 8.19	... 34.80
South Australia	... 74.96	... 5.10	... 19.94
Western Australia	... 28.64	... 41.87	... 29.49
Tasmania ...	... 79.44	... 7.27	... 13.29
New Zealand ...	... 66.83	... 3.50	... 29.67

The following table shows the interstate movement of population, as revealed by the census of 1901:—

States.	No. of Natives of other Six States.	No. of Natives in other Six States.	Net Gain (+) or Loss (−) from or to other Six States.
New South Wales ...	112,099	74,089	+ 38,010
Victoria	73,196	136,638	− 63,442
Queensland ...	40,602	22,746	+ 17,856
South Australia ...	17,544	65,079	− 47,535
Western Australia ...	76,912	3,795	+ 73,117
Tasmania	12,488	30,537	− 18,049
New Zealand ...	25,831	25,788	+ 43

The following table shows the percentage of the population of each state of Australasia born in England and Wales, Scotland, Ireland, and the United Kingdom respectively:—

States.	Percentage of Natives of England and Wales.	Scotland.	Ireland.	U. K.
New South Wales	... 9.58	... 2.27	... 4.43	... 16.28
Victoria ...	... 9.79	... 2.99	... 5.14	... 17.92
Queensland ...	... 13.82	... 4.02	... 7.58	... 25.42
South Australia	... 10.67	... 1.92	... 3.10	... 15.69
Western Australia	... 14.30	... 2.94	... 5.36	... 22.60
Tasmania ...	... 7.52	... 1.74	... 2.26	... 11.52
New Zealand	... 14.73	... 6.20	... 5.63	... 26.56
Australasia	... 11.18	... 3.30	... 5.02	... 19.50

The following table shows the percentage of Germans, of Scandinavians, and of all foreigners in the total population of each state of Australasia:—

	Percentage of Germans.	Scandinavians.	All Foreigners.
New South Wales	... 0.64	... 0.33	... 2.61
Victoria ...	... 0.64	... 0.27	... 2.15
Queensland ...	... 2.65	... 1.07	... 8.71
South Australia	... 1.84	... 0.26	... 3.73
Western Australia	... 0.83	... 0.81	... 5.65
Tasmania ...	... 0.45	... 0.22	... 1.29
New Zealand	... 0.55	... 0.64	... 2.41
Australasia	... 0.94	... 0.28	... 3.28

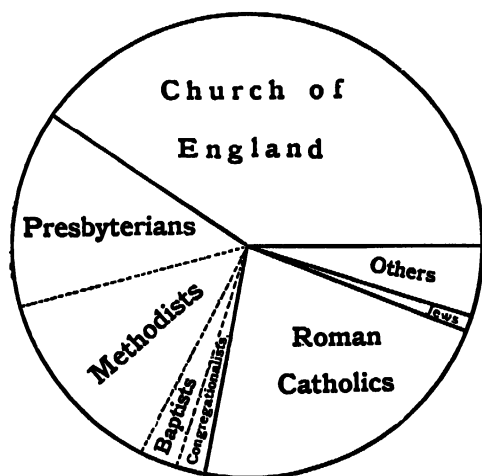
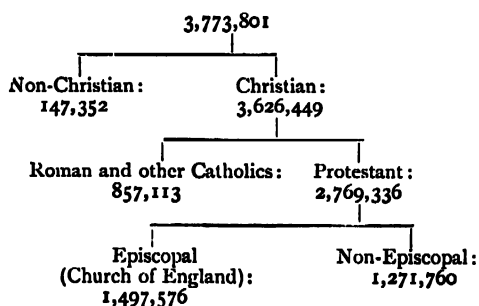
The following table shows the number of coloured aliens in each state of the Commonwealth of Australia at the date of the census of 1901:—

States.	Chinese.	Japanese.	Hindus and Cingalese.	Pacific Islanders.	Total.
New South Wales	10,222	161	1,681	467	13,792
Victoria	6,347	55	789	2	7,628
Queensland ...	8,587	2,269	939	9,327	22,909
South Australia...	3,359	205	439	2	4,458
Western Australia	1,521	864	833	31	5,066
Tasmania ...	506	—	—	—	588
Commonwealth	30,542	3,554	4,681	9,829	54,441

Population according to Religion

Denominations.	Number, 1901.
Church of England	1,497,576
Roman Catholics	850,620
Methodists	504,101
Presbyterians	426,105
Baptists	89,338
Congregationalists	73,561
Lutherans	75,021
Salvation Army	31,100
Unitarians	2,629
Other Christians	76,398
Jews	15,239
Mohammedans ... / Buddhists and Confucians / Hindus, &c.... ...	38,132
Freethinkers, Agnostics, &c. ...	10,427
All Others	83,554
Total	3,773,801

The main groups may be shown thus:—

Total population accounted for:

The above circle diagram shows the relative strength of the chief religious denominations in Australasia (Australia and New Zealand together).

N.S.W.	Anglican	Nonconformist	R.C.	
V.	Anglican	Nonconformist	R.C.	
Q.	Anglican	Nonconformist	R.C.	
S.A.	Anglican	Nonconformist	R.C.	
W.A.	Anglican	Nonconformist	R.C.	
T.	Anglican	Nonconformist	R.C.	
N.Z.	Anglican	Nonconformist	R.C.	

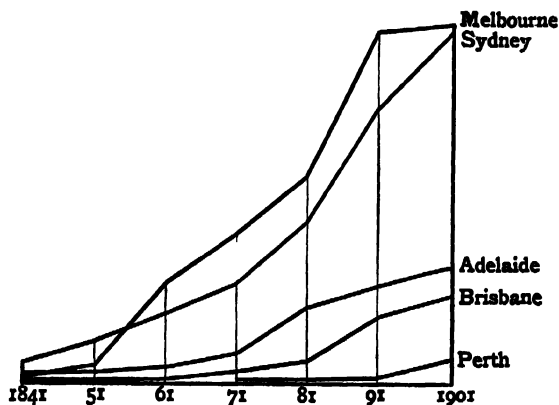
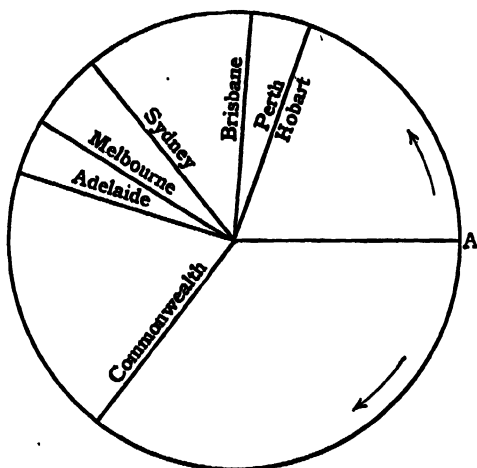
The above diagram shows the relative strength, in each state of Australasia, of the Church of England, the denominations corresponding to the Nonconformist or Free Churches of England, the Roman Catholics, and all others.

Principal Towns

The following is a list of the principal towns of the Australian Commonwealth, with their populations according to recent returns (1906):—

Towns.	Population.
Sydney (cap. New South Wales)... ...	539,000
Melbourne (cap. Victoria)...	527,000
Adelaide (cap. South Australia)	176,000
Brisbane (cap. Queensland)	133,000
Newcastle (New South Wales)	62,000
Perth (cap. Western Australia)	54,000
Ballarat (Victoria)	49,000
Bendigo (Victoria)	44,000
Hobart (cap. Tasmania)	35,000
Broken Hill (New South Wales)... ...	29,000
Kalgoorlie and Boulder (Western Australia)	29,000
Geelong (Victoria)	28,000
Launceston (Tasmania)	22,000
Fremantle (Western Australia)	21,000
Rockhampton (Queensland)	16,000
Gympie (Queensland)	13,000
Parramatta (New South Wales)	13,000
Maryborough (Queensland)	12,000
Townsville (Queensland)	11,000
Toowoomba (Queensland)	11,000
Goulburn (New South Wales)	11,000
Maitland (New South Wales)	11,000
Port Pirie (South Australia)	10,500
Bathurst (New South Wales)	9,500
Mount Morgan (Queensland)	9,000
Ipswich (Queensland)	8,500
Castlemaine (Victoria)	8,500
Albury (New South Wales)	7,000
Orange (New South Wales)	7,000
Warrnambool (Victoria)	6,500
Tamworth (New South Wales)	6,500

Towns.	Population.
Lithgow (New South Wales)	6,500
Granville (New South Wales)	6,500
Maryborough (Victoria)	6,000
Grafton (New South Wales)	6,000
Queenstown (Tasmania)	6,000
Zeehan (Tasmania)...	6,000
Charters Towers (Queensland)	6,000
Wagga Wagga (New South Wales) ...	5,500
Lismore (New South Wales)	5,500
Stawell (Victoria)	5,000
Bundaberg (Queensland)	5,000
Cairns (Queensland)	5,000

Other places of some importance are: Forbes and Yass, in New South Wales; Hamilton and Echuca, in Victoria; Wallaroo, in South Australia; Albany, in Western Australia; Mackay and Warwick, in Queensland; Devonport and Beaconsfield, in Tasmania; and Palmerston, in the Northern Territory of South Australia.

The above graphs show the movement of the population of the five chief capitals of the Commonwealth states during 1841–1901.

The above circle diagram shows the proportion of the population of each state of the Commonwealth contained in its capital, and also the proportion of the whole population contained in the six capitals. In each case the whole circle represents the total population, and the portion contained in the capital or capitals is represented by a sector. For the individual states the sectors are measured counter-clockwise from A to the radius bearing the name of the capital; for the Commonwealth the sector is measured clockwise from A to the radius bearing the name *Commonwealth*. The percentage for the whole Commonwealth was 35.37 in 1901; for Hobart, 19.66; for Adelaide, 45.31.

Regarding the capital of the Commonwealth, the constitution provides as follows (Ch. VII, § 125): "The seat of Government of the Commonwealth shall be determined by The Parliament and shall be within territory which shall have been granted to or acquired by the Commonwealth and shall be vested in and belong to the Commonwealth, and if New South Wales be an Original State shall be in that state, and be distant not less than one hundred miles from Sydney".

Climate

The following tables, taken from the article on *Australia* in the new edition of the Encyclopædia Britannica, show the distribution of mean winter and summer temperature on the continent of Australia (Tasmania excluded):—

Mean Winter Temperature (July).

Temp. (° F.).		Area in Sq. Miles.
45–50	...	18,800
50–55	...	596,300
55–60	...	681,800
60–65	...	834,400
65–70	...	515,000
70–75	...	275,900
75–80	...	24,500

Mean Summer Temperature (December).

Temp. (° F.).		Area in Sq. Miles.
60–65	...	67,800
65–70	...	63,700
70–75	...	352,300
75–80	...	439,200
80–85	...	733,600
85–90	...	570,600
90–95	...	584,100
95 upwards		135,400

The area within the tropics is 1,145,000 sq. miles; that in the south temperate zone, 1,801,700 sq. miles.

The following table shows the distribution of annual rainfall on the continent of Australia (Tasmania excluded):—

Annual Rainfall (Inches).		Area in Sq. Miles.
< 10	... ...	1,219,600
10–20	... ...	843,100
20–30	... ...	399,900
30–40	... ...	225,700
40–50	.. ...	140,300
50–60	... ...	47,900
60–70	... ...	56,100
> 70	... ...	14,100

Mean rainfall of continent, about 17 inches.

The following table gives some meteorological particulars for a number of places in Australia and Tasmania:—

Stations.	S. Latitude.	Mean Annual Temp. (° F.).	Mean Temp. of Warmest Month.	Mean Temp. of Coldest Month.	Annual Rainfall (Inches).
Palmerston (S.A.)	12° 27′	—	—	—	59.1
Derby (W.A.)	17° 19′	81.2	88.4	70.9	36
Townsville (Q.)	19° 10′	—	—	—	50.3
Rockhampton (Q.)	23° 24′	—	—	—	42
Brisbane (Q.)	27° 28′	69.2	78	58.8	50
Toowoomba (Q.)	27° 34′	61	71.6	48.2	45.6
Perth (W.A.)	31° 57′	65.1	76.3	55	33
Bathurst (N.S.W.)	33° 25′	57.6	72.6	43.3	24.6
Sydney (N.S.W.)	33° 51′	63	71.5	52.5	49.7
Goulburn (N.S.W.)	34° 45′	56.8	70.3	43.5	25.4
Adelaide (S.A.)	34° 57′	62.7	74.1	51.5	20.7
Albany (W.A.)	35° 2′	58.6	66.1	52.6	30
Albury (N.S.W.)	36° 6′	59.6	75.2	45.4	26.4
Bendigo (V.)	36° 46′	58.7	72.3	46.1	23.9
Ballarat (V.)	37° 33′	55.2	66.7	43.5	27
Melbourne (V.)	37° 49′	57.4	65.9	47.2	25.5
Mount Gambier (S.A.)	37° 50′	57.6	65.8	49	31.3
Launceston (T.)	41° 30′	—	—	—	32
Hobart (T.)	42° 53′	53.6	60.9	45.7	22.9

The first four stations are intra-tropical, the rest south temperate. The corresponding particulars for Liverpool are as follows:—Mean Annual Temperature, 50.3° F.; Mean Temperature of Warmest Month, 61.2° F.; Mean Temperature of Coldest Month, 41.2° F.; Mean Annual Rainfall, 30.3 inches.

The following additional particulars for the two chief towns of Australia may also be given:—

Sydney: Maximum temp. in shade, 109° F.; minimum temp., 36° F.; seasonal means: spring, 62°; summer, 71°; autumn, 64°; winter, 54°.

Melbourne: Maximum temp. in shade, 110.7° F.; minimum temp., 27° F.; seasonal means: spring, 57°; summer, 65.3°; autumn, 58.7°; winter, 49.2°.

The following table shows the distribution of rainfall in Tasmania:—

Annual Rainfall (Inches).	Area in Sq. Miles.
10–20	9440
30–40	8380
40–50	8380

The mean annual rainfall is about 31 inches.

Principal Mountains

Principal Ranges, &c.	Chief Summits (with heights in feet).
Victoria—	
The Main Watershed:	
Grampians.	Mt. William (3827).
Pyrenees.	Ben Nevis.
Great Dividing Range.	Mt. Macedon.
Hume Range.	——
Australian Alps.	Bogong (6508).
	Feathertop (6303).
	Hotbam (6100).
	Copperas (6025).
	Pilot (6020).
	Cope (6015).
	Butler (5934).
	Gibbs (5764).
	Wills (5758).
	Howitt (5715).
	Buffalo (5645).
	Twins (5575).
	Wellington (5363).
Victoria (*continued*)—	
Coast Ranges:	
Snake's Ridge, Strzelecki Range, Dividing Range, &c.	
New South Wales—	
The Main Watershed:	
Muniong Range.	Mt. Kosciusko (7328).
	Mt. Townsend (7260).
Monaro Range.	(4010 feet).
Gourock Range.	Jindulian (4300).
Cullarin Range.	Mundoonen (3000).
Blue Mountains.	Mt. Beemarang (4100).
Liverpool Range.	Oxley's Peak (4500).
New England Range.	Ben Lomond (5000).
Hardwick Range.	——
Coast Ranges:	
Hastings Range.	Mt. Seaview (3100).
Illawarra Mts.	Mt. Budawang (3800).
Southern Coast Range.	Coolangubra (3712).
Inland Ranges:	
Stanley (Barrier) Range.	Mt. Lyell (2000).
Grey Range.	Mt. Arrowsmith (2000).
Caturaundee and other Ranges.	——
Queensland—	
Main Watershed:	
Macpherson Range.	Mt. Lindesay (4064).
Bunya Mts.	Mt. Mowbullan (3600).
Craig's Range.	——
Grafton Range.	——
Denham Range.	——
Great Dividing Range.	Table Top.
	Mt. Judy.
	Mt. Misery.
	Mt. Faraday.
	Mt. Pluto.
	Mt. Howard.

Principal Ranges, &c.	Chief Summits (with heights in feet).
Queensland (*continued*)—	
Coastal Ranges:	
Bellenden Ker Range.	Wooroonooran (5400). Chooreechillum (5200).
Seaview Range.	—
Clarke Range.	—
Denham, Drummond, and Peak Ranges.	—
Expedition and Carnarvon Ranges.	—
M'Ilwraith and Richardson Ranges.	—
Interior Ranges:	
Grey Range.	—
Govan and Warrego Ranges.	Mts. Harden and Grey.
Cheviot Range.	—
Selwyn Range.	—
South Australia—	
Southern Ranges:	
Mt. Lofty Range.	Mt. Razorback (2834). Mt. Cone (2601). Mt. Lofty (2334).
Flinders Range.	Mt. Remarkable (3100). Mt. Brown (3100). Mts. Arden and Serle (3000).
Gawler Range.	Mts. Nonning, Sturt, and Double (about 2000).
S. E. Volcanoes.	Mt. Gambier, &c.
Central Ranges:	
Stuart Range.	—
Denison and Hansor Ranges.	—
Macdonnell Range.	—
James Range.	—
Reynold Range.	—
Giles Range.	—
Hart's Range.	—
Jervois Range.	—
Forster's Range.	—
Davenport Range.	—
M'Douall Range.	—
Ashburton Range.	—
Northern Ranges:	
Murchison and Ellesmere Ranges.	—
Connaught and Newcastle Ranges.	—
Stoke's Range.	—
Western Australia—	
Coastal Ranges:	
Stirling Range.	Mt. Kyenerup (3500).
Darling Range.	Mt. William (1700).
Roe Range.	Mt. William (3000).
Blackwood Range.	(2000 feet).
North-west Ranges:	
Hammersley Range.	Mt. Bruce (3800).
And others.	—

Principal Ranges, &c.	Chief Summits (with heights in feet).
Western Australia (*continued*)—	
Kimberly Division Ranges:	
Princess May Range.	Mt. York (3000); Mt. Hann (2000)
King Leopold Range.	(2400 feet).
Many others.	—
Tasmania—	
Eastern Mountains.	Ben Lomond (5010). Mt. Barrow (4644). Mt. Victoria (3964). Ben Nevis (3910).
Western Mountains.	Cradle Mountain (5069). Frenchman's Cap (4756). Ironstone Mountain (4736). Mt. Field (4721). Mt. Hugel (4700). Mt. William (4360). Mt. Bischoff. Mt. Wellington (4166).

Principal Rivers

Flowing East—

River	State
Shoalhaven (260 miles).	*New South Wales.*
Hawkesbury (330 miles; Broken Bay).	
Hunter (300 miles; Port Hunter).	
Manning (100 miles).	
Hastings (Port Macquarie).	
Macleay (190 miles; Trial Bay).	
Clarence (240 miles; Shoal Bay).	
Richmond (120 miles).	
Logan, Brisbane } Moreton Bay.	*Queensland.*
Mary (Wide Bay).	
Burnett (Hervey Bay).	
Fitzroy (Mackenzie + Dawson; Keppel Bay).	
Burdekin (Upstart Bay).	
Houghton (Bowling Green Bay).	
Herbert.	
Barron.	
Normanby (Princess Charlotte Bay).	

Flowing North—

Rivers		State
Batavia.	Norman.	*Queensland.*
Archer.	Flinders.	
Mitchell.	Leichhardt.	
Staaten.	Albert.	
Gilbert.		
M'Arthur.	Adelaide.	*Northern Territory.*
Roper.	Daly.	
Liverpool.	Fitzmaurice.	
East Alligator.	Victoria.	
South Alligator.		
Ord.	Yule.	*Western Australia.*
Prince Regent.	Fortescue.	
Fitzroy.	Ashburton.	
De Grey.		

Flowing West—

Rivers		State
Gascoyne.	Hill.	*Western Australia.*
Wooramel.	Moore.	
Murchison.	Swan.	
Greenough.	Murray.	
Irwin.	Collie.	

Flowing South—

Blackwood.	Frankland.	*Western Australia.*
Warren.	Pallinup.	
Broughton.	Torrens.	*South Australia.*
Wakefield.	Onkaparinga.	
Light.	Hindmarsh.	
Gawler.	Inman.	

Murray (1720 miles). } *Eastern Colonies and South Australia.*

- Mitta Mitta (L.; 175 miles).
- Ovens (L.; 140 miles).
- Broken Creek (L.).
- Goulburn (L.; 345 miles).
- Campaspe (L.; 150 miles).
- Loddon (L.; 225 miles).
- Wakool (R.).
  - Edward (R.).
- Murrumbidgee (R.; 1350 miles).
  - Tumut (L.).
  - Lachlan (R.; 700 miles).
- Darling (R.; 1160 miles).
  - Dumaresq (R.)
  - Moonie (R.).
  - Gwydir (L.).
  - Namoi (L.).
  - Macquarie (L.).
  - Bogan (L.).
  - Culgoa (R.).
  - Warrego (R.).

Victoria:

Glenelg (280 miles).
Hopkins (155 miles).
Yarra Yarra (150 miles).
Latrobe, Mitchell, Tambo } Gippsland Lakes.
Snowy (300 miles; rises in N.S.W.).

Inland Drainage—

Wimmera (228 miles). Tyrrell. &c. } *N. Victoria.*
Avoca.
Paroo (in Queensland and New South Wales).
Bulloo (in Queensland).
Cooper's Creek or Barcoo. Alberga. } *Lake Eyre.*
Diamantina or Mueller. Others.

Tasmanian Rivers—

Tamar (Macquarie + S. Esk).	Huon.
Derwent.	Gordon.
Ouse (L.).	Corinna (Pieman).
Clyde (L.).	Arthur.
Jordan (L.).	

Principal Lakes

Victoria: King, Victoria, Wellington, Tyers, the Gippsland Lakes; Corangamite, Colac, Burrumbeet; Tyrrell, Buloke, Hindmarsh, Albacutya, Bolac, Connewarre.

New South Wales: George, Bathurst; Tarrago, Burra Burra, Cowal, Narran, Pitarpunga, Popilta, Tandon, Menindie, Poopelloe.

Queensland: Yamma-Yamma, Galilee, Machattie, Philippi, Buchanan, Salt Lake.

South Australia: Eyre (North and South), Torrens; Gairdner, Gregory, Blanche, Callabonna, Frome, Hart, Everard, Acraman, Gilles, Cadibarrawirracanna, Goyder; Bonney, George, St. Clair, Hawdon, Blue Lake (Mt. Gambier), in south-east district; Alexandrina, Albert, at mouth of Murray.

Northern Territory: Amadeus.

Western Australia: Cowan, Lefroy, Carey, Dundas, Roeside, Ballard, Giles, Barlee, Salt Lake, Moore, Monger, Austin, Way, Baron von Müller, Wells, Nabberoo, Yarra-Yarra, Macdonald.

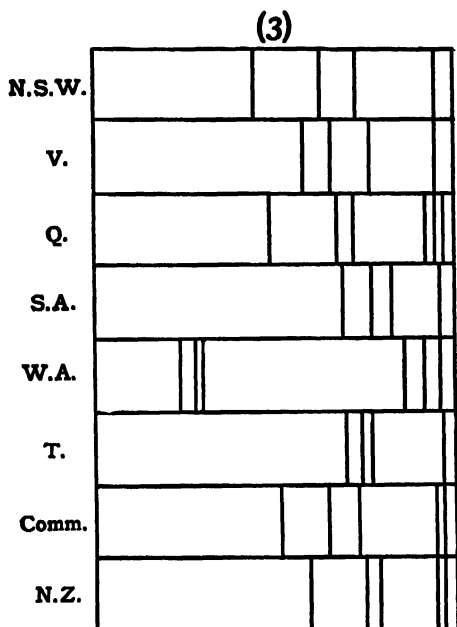
Tasmania: Great Lake (44 sq. miles), Sorell, Crescent, St. Clair, Echo, Arthur, Tiberias, Tooms.

Employment and Production

The accompanying figures show for each state of Australasia and for the Commonwealth of Australia respectively (1) the proportion of breadwinners in the

population, (2) the relative proportions of the chief classes of breadwinners, and (3) the relative proportions

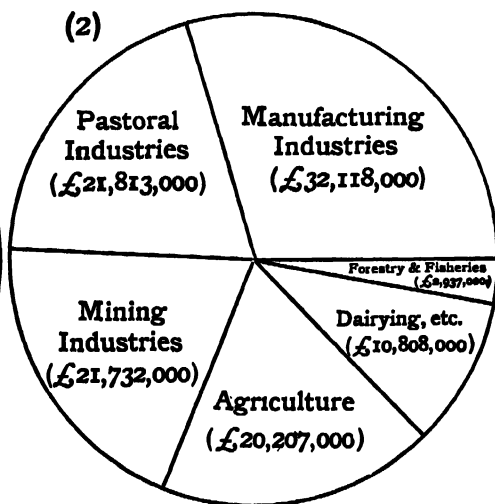
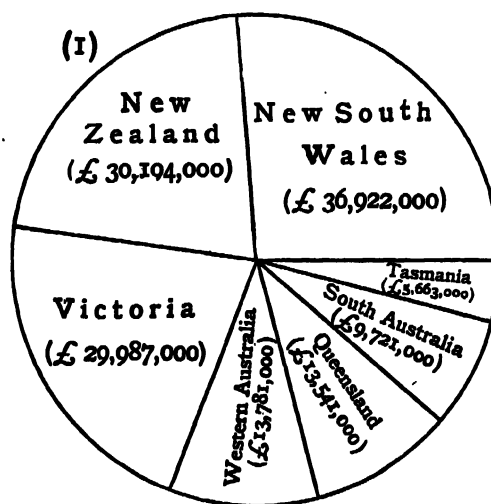
of the chief classes of primary producers among breadwinners. In (1) the three lines across each rectangle mark the boundaries to the right of the parts repre-

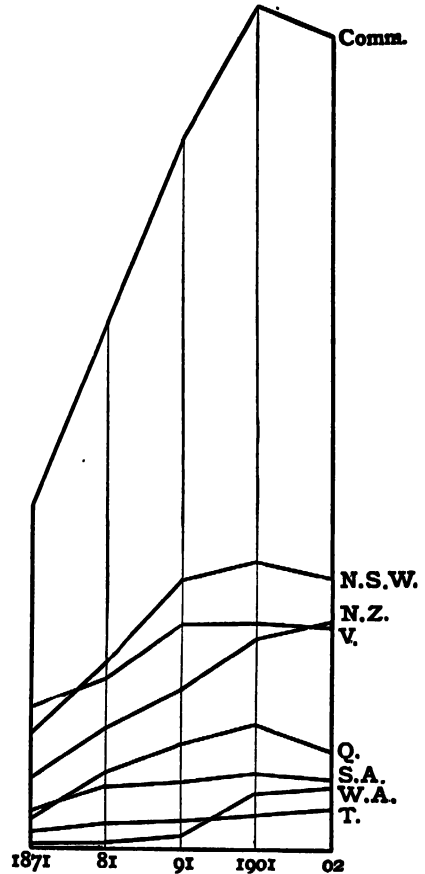
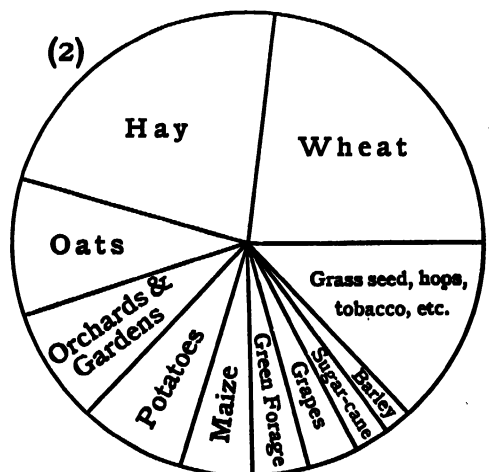
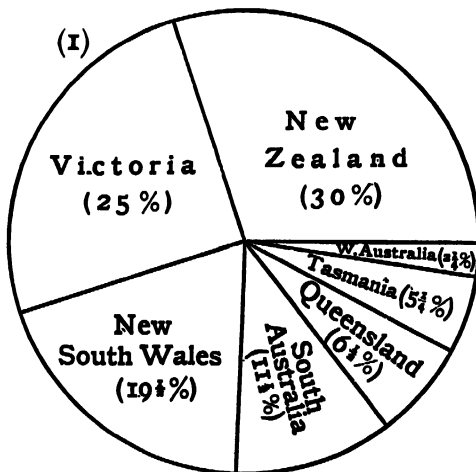
senting, as measured from the extreme left of the figure, female breadwinners, all breadwinners, and male breadwinners, the whole rectangle representing respectively the total of females, the total population, and the total

of males. In (2) the divisions represent, in order from left to right, Primary Producers, Industrial Population, Commercial Population, Domestic Workers, Transport and Communication Workers, Professional Population, and Others. In (3) the divisions represent, in order from left to right, Agriculture, Pastoral Pursuits, Dairying, Mining, Forestry, Fishing, and Other Primary Industries (Forestry and Fishing both shown only for Queensland and Western Australia, and Forestry for the Commonwealth and New Zealand).

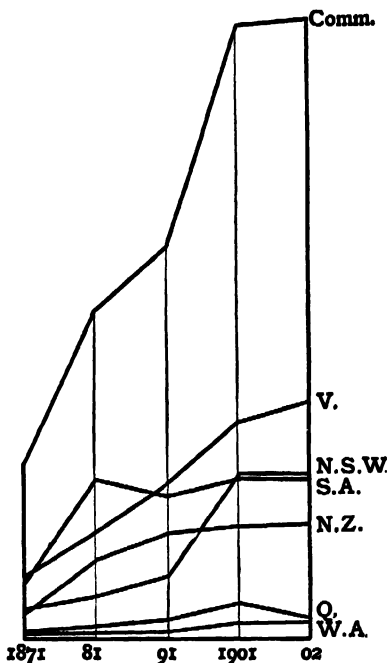
Victoria has the largest proportion of female breadwinners, and Western Australia the largest proportion of male breadwinners and all breadwinners. The percentage of breadwinners to the population is about the same in the Commonwealth and New Zealand, but the Commonwealth has a somewhat larger proportion of females and a somewhat smaller proportion of males among its breadwinners.

From the third diagram we learn the following facts. South Australia has the relatively largest agricultural population, New Zealand and Victoria coming next. Western Australia, with a very small agricultural population, has much the largest proportion of miners to total population. New South Wales, Queensland, and New Zealand lead in respect of pastoral employment.

The number of breadwinners in the Commonwealth of Australia is as follows:—Males, 1,286,225; females, 356,452—total, 1,642,677. Of these, 494,192 males and 38,944 females—533,136 in all—are primary producers. Of the primary producers, 251,392 males and 24,703 females—276,095 in all—are engaged in agricultural pursuits; 65,240 males and 2620 females—67,860 in all—in pastoral pursuits; 32,455 males and 11,497 females—43,952 in all—in dairying, &c.; 118,260 males and 29 females — 118,289 in all — in mining, quarrying, &c.

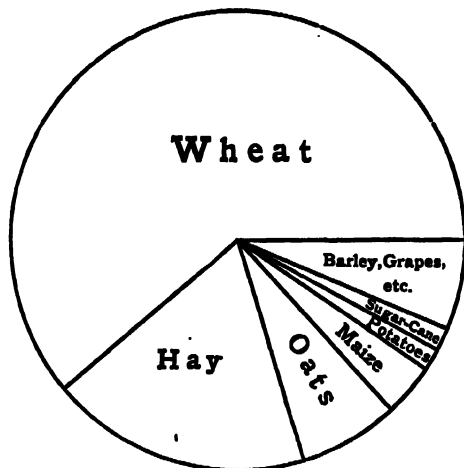
The corresponding figures for New Zealand are as follows: — Breadwinners: 272,077 males and 64,730 females—336,807 in all. Primary Producers: 108,007 males and 3914 females—111,921 in all. Agricultural: 65,723 males and 2089 females—67,812 in all. Pastoral: 16,377 males and 495 females—16,872 in all. Dairying, &c.: 3223 males and 1315 females—4538 in all. Mining, Quarrying, &c.: 17,808 males and 8 females—17,816 in all.

The above circle diagrams show (1) the distribution of the total production of all kinds in Australasia among the states in 1902, and (2) the distribution of the total Commonwealth production in 1902 among the various branches of industry. The total production of Australasia was valued at £139,809,000, the share of the Commonwealth being £109,615,000.

The accompanying set of graphs shows the progress in the value of the total production of the Australasian states and the Commonwealth of Australia during the period 1871–1902. The total value for the Commonwealth in 1871 was £46,700,000; in 1902, £109,615,000. For New Zealand the corresponding figures are: total production in 1871, £9,739,000; in 1902, £30,194,000. The totals for the individual states of the Commonwealth in 1902 are given on a previous diagram. Those for 1871 are as follows: New South Wales, £15,379,000; Victoria, £19,260,000; Queensland, £3,995,000; South Australia, £5,228,000; Western Australia, £707,000; Tasmania, £2,131,000. During the period of thirty-one years covered by the diagram both New South Wales and New Zealand have passed Victoria in the value of their total production, New Zealand only recently. Queensland and Western Australia have made great advances, the latter chiefly since the great gold discoveries, but in South Australia and Tasmania progress has been less marked. It should be borne in mind that 1902 was, owing to drought, an unfavourable year in Australia, but not in New Zealand.

Agriculture

The above circle diagrams show (1) the shares of the states of Australasia in the total annual value of crops produced, and (2) the proportion in which each of the principal crops contributes to the total value of agricultural produce. The annual value of the total produce averaged about £29,000,000 during the five years 1899–1903. This was at the rate of over £2, 16*s.* per acre (over £2, 7*s.* for Australia and over £5, 1*s.* for New Zealand). The average value per head of population is about £6, 7*s.* (£11, 3*s.* for New Zealand and £5, 7*s.* for Australia).

The following graphs show the area under cultivation in each state of Australasia and in the Commonwealth of Australia in 1871, 1881, 1891, 1901, and 1902. The area for the Commonwealth was 9,545,856 acres in 1906 (8,472,551 in 1902), and for New Zealand, 1,805,692

acres in 1907. This is at the rate of 2.3 acres per head of population for the Commonwealth, and of nearly 2 acres for New Zealand.

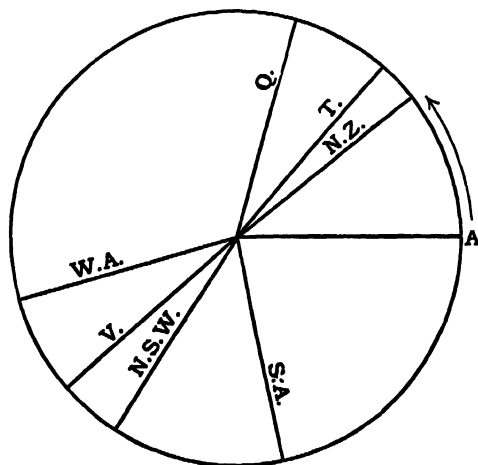
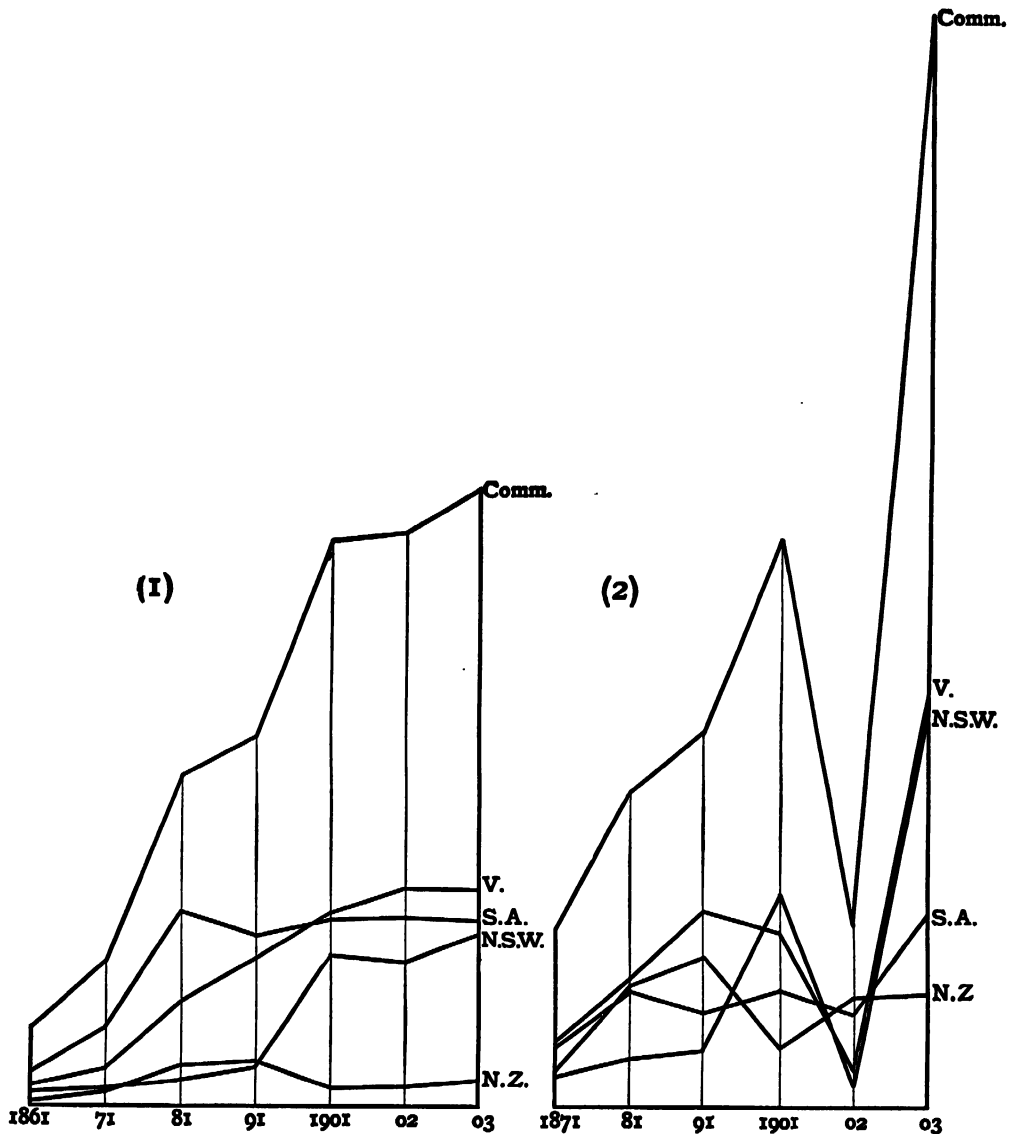
The whole area of the Commonwealth under cultivation in 1871 was 2,345,922 acres, and of New Zealand, 337,282 acres, giving a total of 2,683,204 acres. The increase of cultivation in the leading states is indicated by the following figures:—New South Wales: 390,099 acres in 1871, 2,826,657 acres in 1906; Victoria: 851,354 acres in 1871, 3,303,586 acres in 1906; South Australia: 837,730 acres in 1871, 2,150,291 acres in 1906; New Zealand: 337,282 acres in 1871, 1,805,692 acres in 1906. The number of acres per head in 1871 was 1.4 for the Commonwealth and 1.3 for New Zealand. South Australia had 4.5 acres per head in 1871, over 5.5 in 1906.

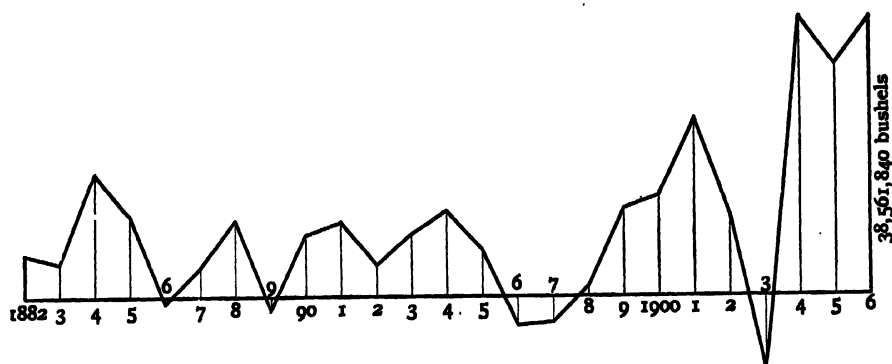
Expressing the area under crop as a percentage of total area, the following results are obtained for a recent year: Commonwealth, .45; New Zealand, 2.4; Victoria, 5.77; Western Australia, .04. For the sake of comparison, we give here also the corresponding figures for 1871: Commonwealth, .12; New Zealand, .5; Victoria, 1.51; Western Australia, .008.

The following circle diagram shows the proportion of the total cultivated area of the Commonwealth of Australia devoted to the principal crops in a recent year. The percentage under wheat is about 62; in South Australia it is 78, in Victoria, 61.5, and in Tasmania, only 13.4. Maize is grown on 3.5 per cent of the cultivated area of the Commonwealth, but in Queensland the percentage is 25. The oats percentage for the Commonwealth (6) is surpassed by those of Tasmania (24) and Victoria (11.5). In Queensland

the percentage for sugar-cane is as high as 24. Of minor crops barley has a percentage of 2 in Tasmania, but only a little over 1 in the Commonwealth as a whole. The percentage for potatoes is 14 in Tasmania, but for the whole Commonwealth it is only 1.5. The vine is cultivated in all the states except Tasmania. Of the whole Commonwealth cultivated area it occupies only .7 per cent, and it is grown in New Zealand only to an insignificant extent.

Although wheat is the principal agricultural product of Australasia, none of the states, nor indeed all of them together, contribute much to the wheat supply of the world. According to a reliable estimate, the world's production of wheat was 437,000,000 quarters in 1906, and of this Australasia's share was only 10,000,000 quarters, or one quarter in forty-four.

The following circle diagram shows the proportion of the cultivated area in each Australian state devoted to wheat-growing. The proportion is in each case represented by the ratio of a sector to the area of the whole circle, the sector being measured counter-clock-

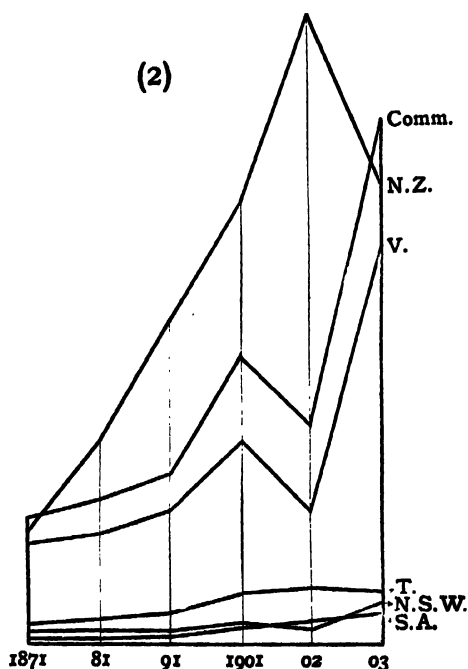
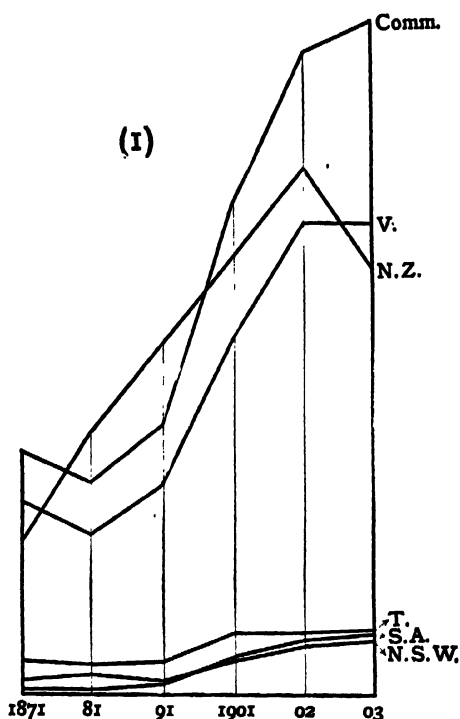
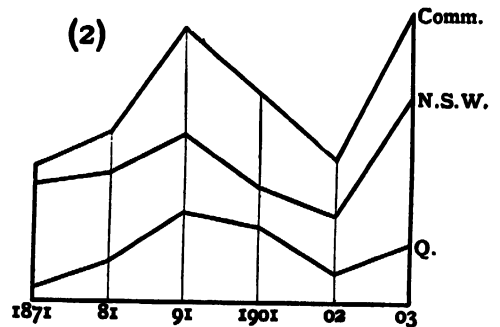
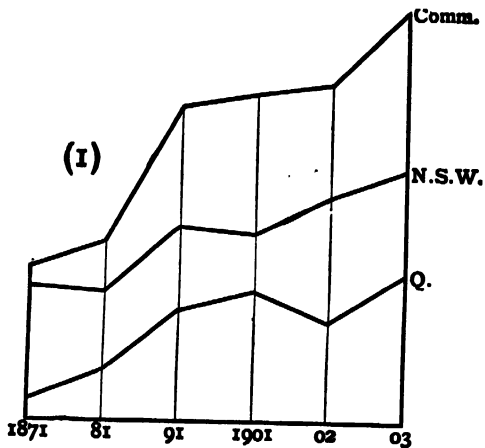
wise from A to the radius bearing the name of the state in a contracted form. The proportion for the whole Commonwealth of Australia is a little more than that for Victoria.

The above two series of graphs show (1) the movement in the area under wheat in the chief wheat-growing states of Australasia and in the Commonwealth of Australia during the period 1861–1903, and (2) the produce of the wheat crop for the same regions at intervals during 1871–1903. The area under wheat in the Commonwealth was 5,977,794 acres in 1906 (5,566,340 in 1903), and the produce was 66,100,654 bushels. The year 1902 was a disastrous one owing to severe drought. The area under wheat in New Zealand was 193,031 acres in 1906, but in 1891 it was 402,273 acres. The crop in 1906 amounted to 5,567,139 bushels. The yield per acre was 11.06 bushels in the Commonwealth (average, 9.19 bushels per acre), and 28.84 bushels in New Zealand (average, 32.42). The yield in the United Kingdom is about 33 bushels per acre.

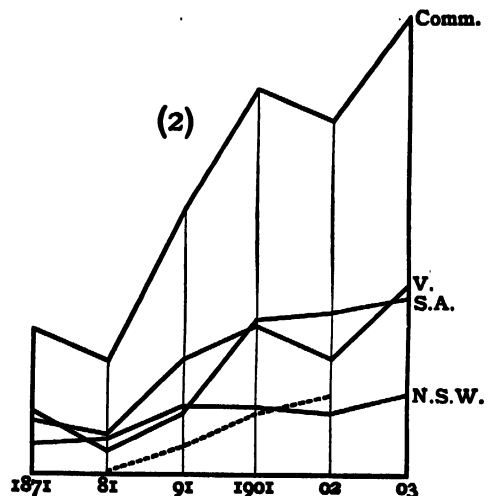
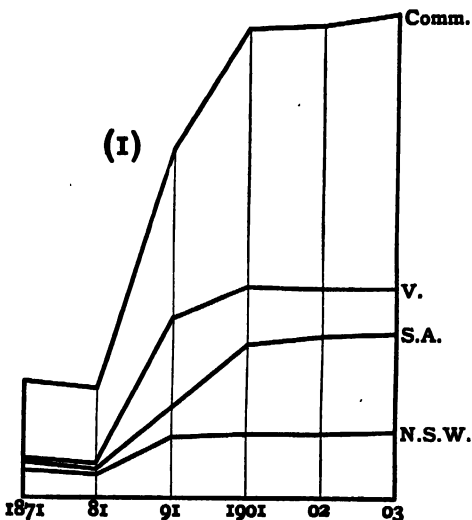
The statistics of the area under wheat in 1861 may be conveniently given here for comparison. In that year the Commonwealth wheat area was 703,825 acres, and that of New Zealand 29,531 acres. For the principal wheat-growing states the areas in 1861 and 1906 are as follows: Victoria, 196,922 acres in 1861, 2,031,893 acres in 1906; New South Wales, 123,468 acres in 1861, 1,866,253 acres in 1906; South Australia, 310,636 acres in 1861, 1,681,982 acres in 1906. It will be noticed that Victoria passed ahead of South Australia during the decade 1891–1901, and that New Zealand was for a time in front of New South Wales in respect of area under wheat.

The above graph shows the net export of breadstuffs from the Commonwealth of Australia in each year from 1882 to 1906 inclusive. An ordinate below the line of dates denotes a net import of breadstuffs. Flour and grain are both included, a ton of flour being reckoned as equivalent to fifty bushels of grain.

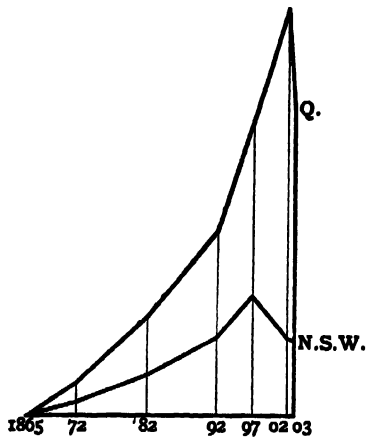
(1)

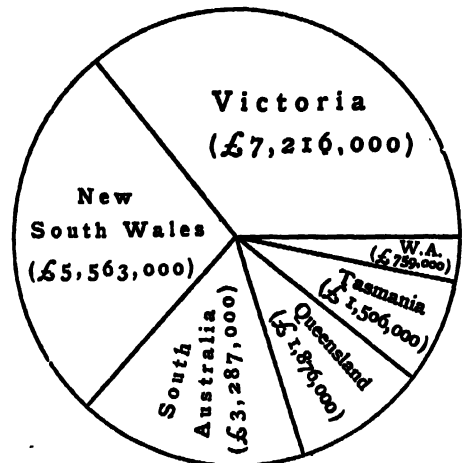
Comm.
V.
N.Z.
T.
S.A.
N.S.W.
1871 81 91 1901 02 03

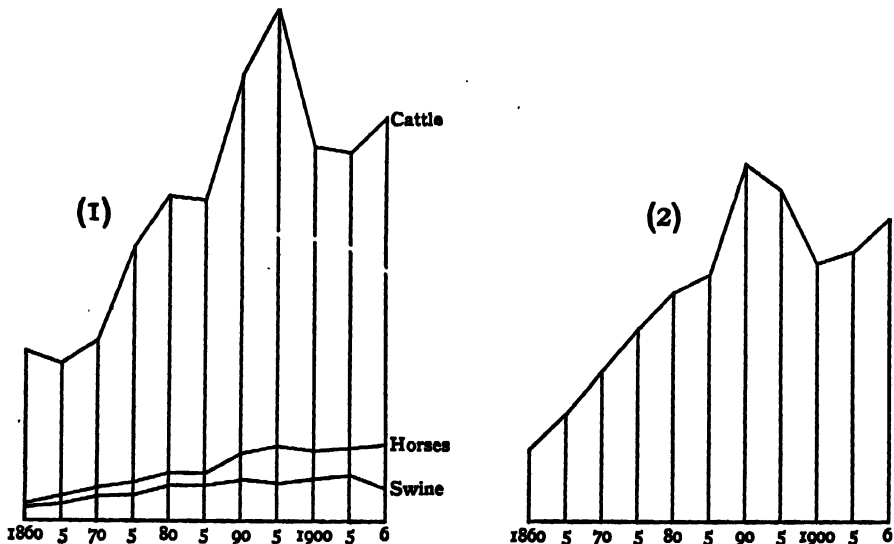
(2)

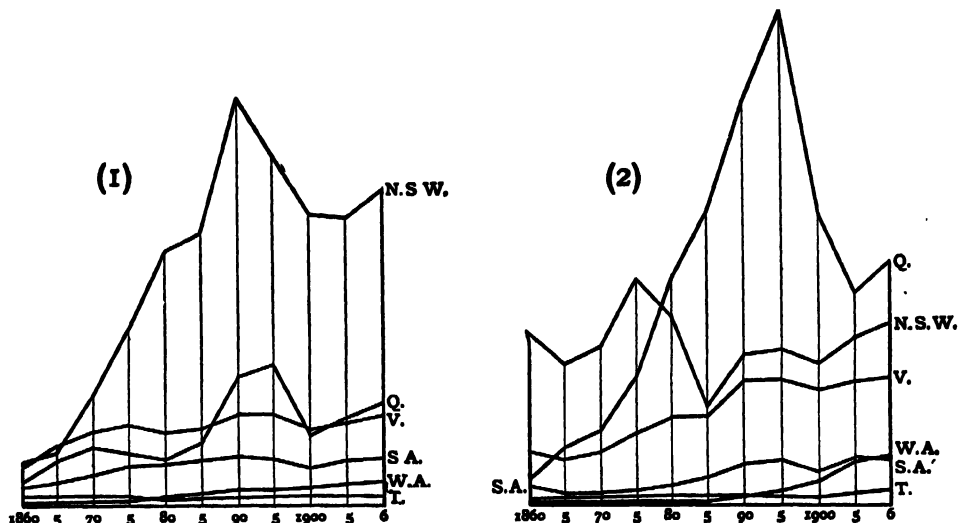
Comm.
N.Z.
V.
T.
N.S.W.
S.A.
1871 81 91 1901 02 03

The above two series of graphs show (1) the movement of the area under oats in the chief oat-growing states of Australasia and in the Commonwealth of Australia during 1871–1903, and (2) the produce of oats in the same regions at intervals during the same period. The scale of (1) is ten times, and of (2) twice, that of the corresponding diagram for wheat. For 1906 the area was 581,843 acres in the Commonwealth (620,856 in 1903), and for 1907 386,885 acres in New Zealand (391,640 in 1903), the produce being 13,611,987 and 15,021,861 bushels respectively. The yield per acre was 23.39 bushels in the Commonwealth, and 38.82 bushels in New Zealand; averages being 20.47 and 39.56 respectively. The average yield per acre in the United Kingdom is 40 bushels. New Zealand, Victoria, Tasmania, and South Australia are exporters of oats, New South Wales, Western Australia, and Queensland being importers.

The above two series of graphs show (1) the movement of the area under maize in the Commonwealth, New South Wales, and Queensland during 1871–1903, and (2) the produce of maize in the same territories at intervals during the same period. The scales of the diagrams are the same as those of the corresponding diagrams for oats. The area under maize in the Commonwealth was 325,581 acres in 1906 (372,018 in 1903), and the output was 10,172,154 bushels. The years 1902 and 1901 were unfavourable. New Zealand had about 8900 acres under maize in 1907, with a total produce of 503,301 bushels. The yield per acre for the Commonwealth was 31.24 bushels (average, 24.7), and for New Zealand 56.74 bushels (average, 42). It is interesting to note that the only states which import much maize are New South Wales and Queensland, the chief maize-growing states.

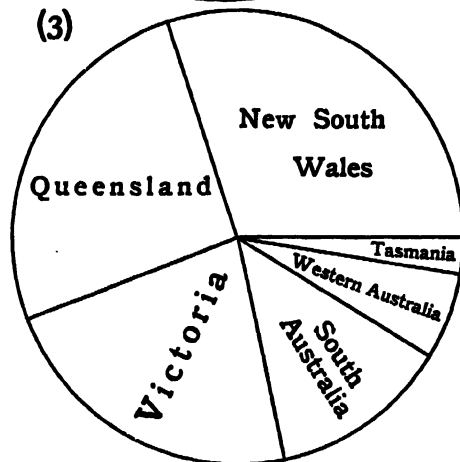
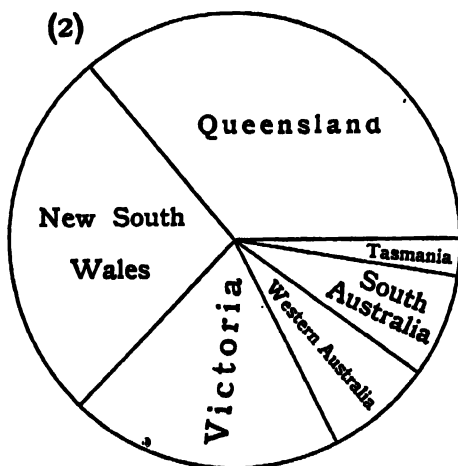
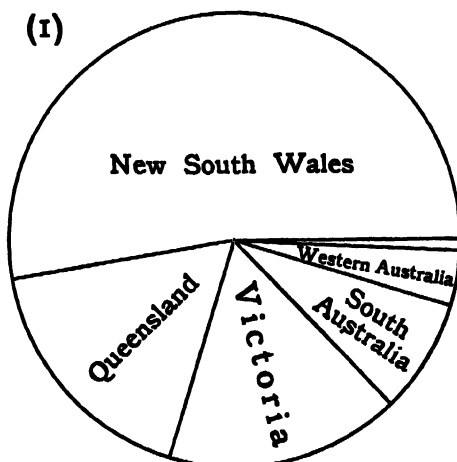
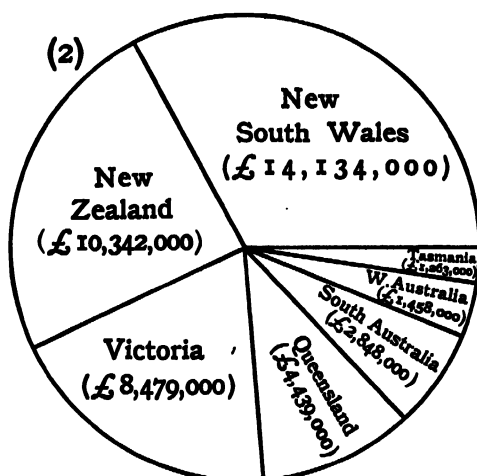
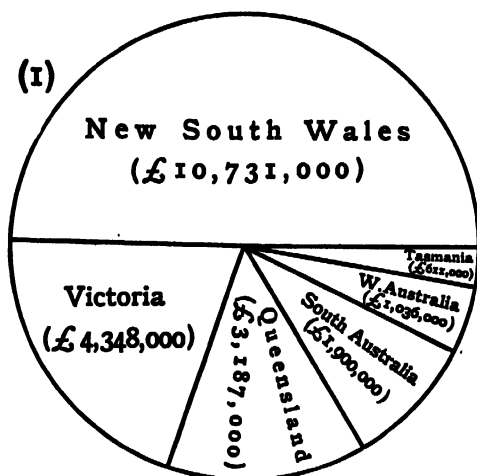
The area under barley in the Commonwealth has grown from 47,787 acres in 1871 to 106,436 acres in 1906, and in New Zealand from 13,305 acres to 36,177 acres in 1907. Victoria, South Australia, and Queensland are the leading barley-growing states of the Commonwealth. The produce of barley was for the Commonwealth 2,248,432 bushels in 1906, and for New Zealand 1,163,406 bushels in 1907. The number of bushels per acre was for the Commonwealth 21.12 (average, 19.5), and for New Zealand 32.15 (average, 30.2). The average yield for the United Kingdom is 32.7 bushels per acre.

The above two series of graphs show (1) the area under the vine in the Commonwealth and its chief vine-growing states at intervals during 1871–1903, and (2) the output of wine in the same regions during the same period. The dotted graph in (2) shows the growth in the quantity of wine exported during 1881–1902. The area under vines in the Commonwealth was 62,546 acres in 1906, and the output of wine was 5,887,013 gallons. The output of table grapes was 26,852 tons in 1906. New Zealand has only about 620 acres of vineyards.

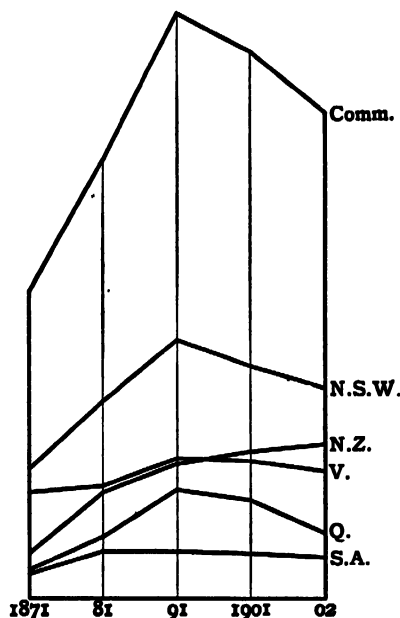
The following graphs show the area under sugar-cane in Queensland and New South Wales at various dates from 1865 to 1903 inclusive. The scale is half

that used for the vine area. The areas for the two states named were 133,284 and 20,601 acres (85,338 and 20,301 in 1903), the areas from which cane was actually cut being 98,194 and 10,378 acres. The yield of sugar averages about 200,000 tons per annum.

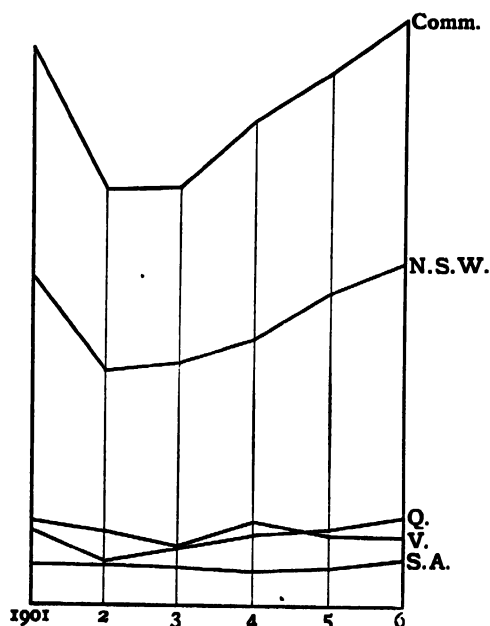
The following circle diagram shows the distribution of the total value of the agricultural produce of the

Commonwealth of Australia among the individual states in 1902. The value for the Commonwealth is £20,207,000.

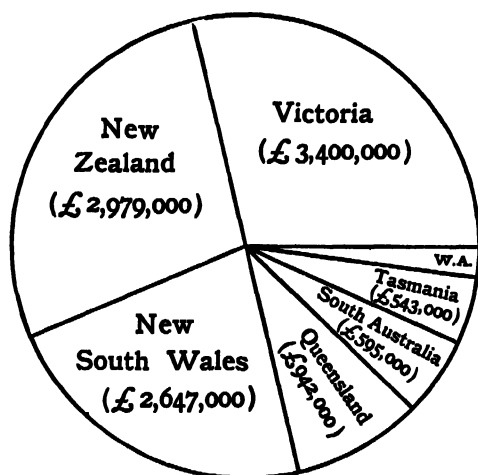
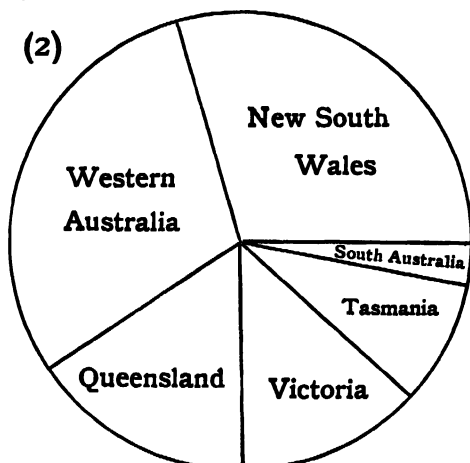
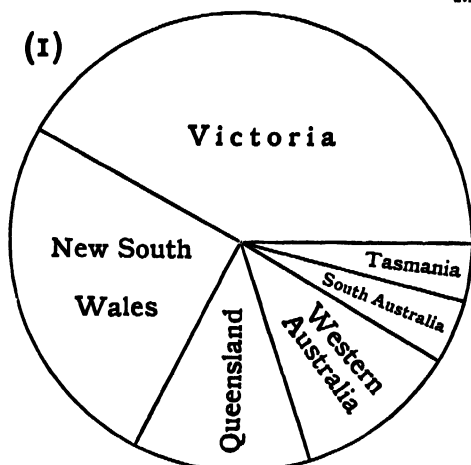
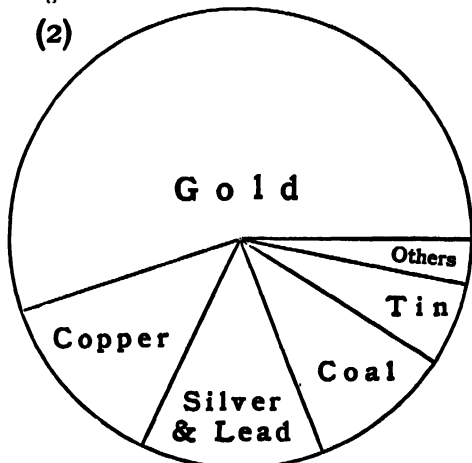
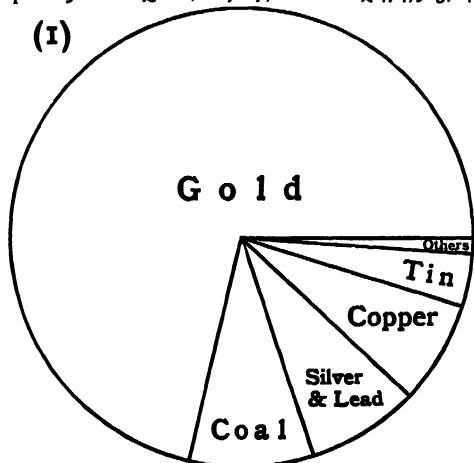
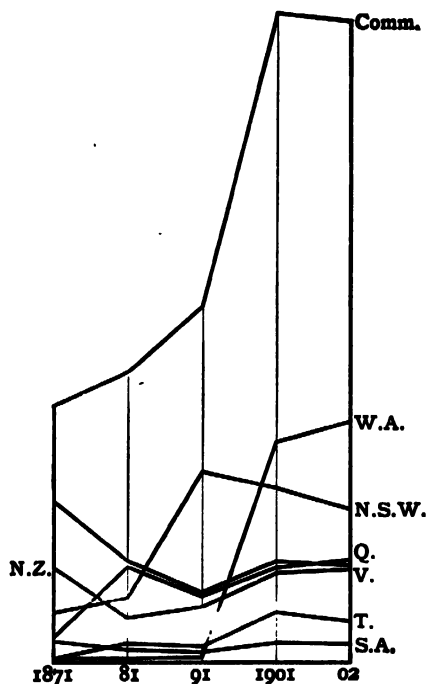
Pastoral Resources and Industries

The above graphs show (1) the number of cattle, horses, and swine in Australia at various dates during the period 1860–1906, and (2) the number of sheep in Australia at the same dates. The scale of (1) is twelve times that of (2). The numbers in 1906 were as follows: Sheep, 83,687,655; cattle, 9,349,409; horses, 1,765,186; swine, 813,569.

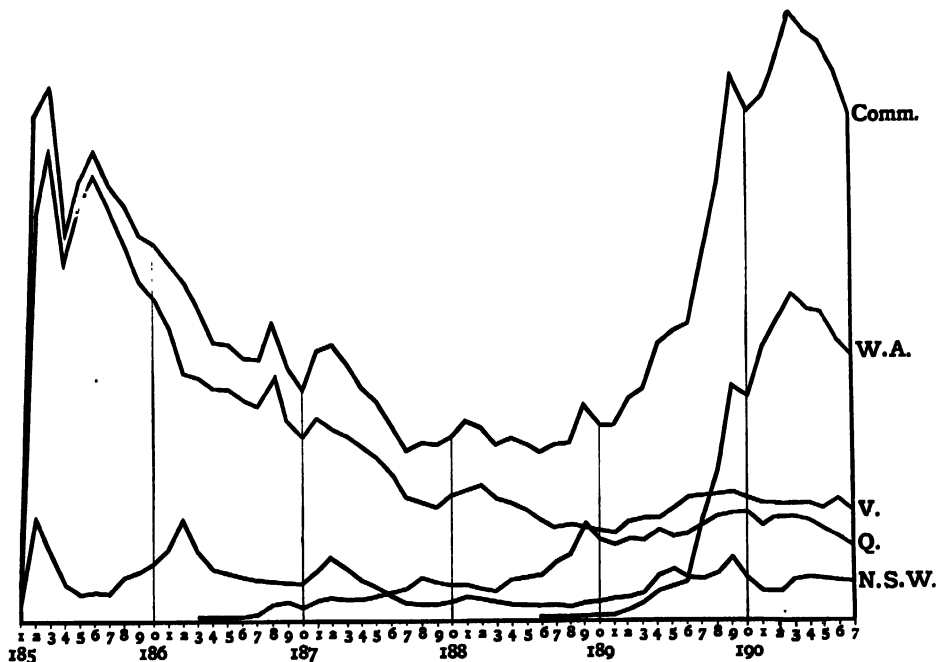
For 1842 the numbers for Australasia, including New Zealand, were as follows: Sheep, 6,312,004; cattle, 1,014,833; horses, 70,615; swine, 66,086. In 1792 the number of stock in Australasia was: Sheep, 105; cattle, 23; horses, 11; swine, 43. In 1821 the numbers stood thus: Sheep, 290,158; cattle, 102,939; horses, 4564; swine, 33,906. These figures show the small beginnings from which the great pastoral industries of Australasia have grown in the course of a century.

The above two series of graphs show (1) the number of sheep in each of the Australian states at various dates during 1860-1906, and (2) the number of cattle in each of the states at the same dates. The actual number of sheep in the Commonwealth in 1906 was 83,687,655; in 1890 it was 97,881,221. The number of cattle in 1906 was 9,349,409; in 1895 it was 11,767,488. The number of cattle in New Zealand in 1907 was 1,816,299, of sheep, 20,983,772.

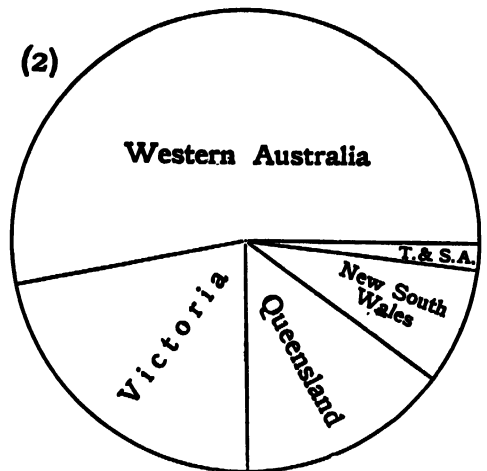
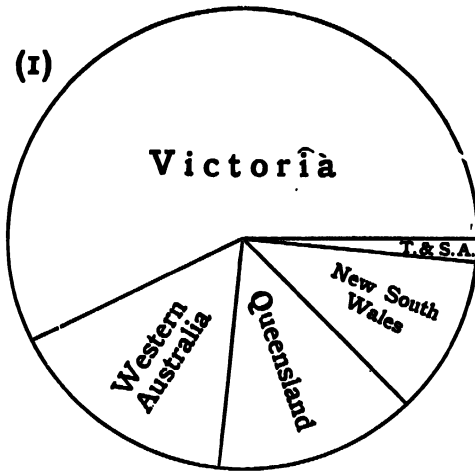
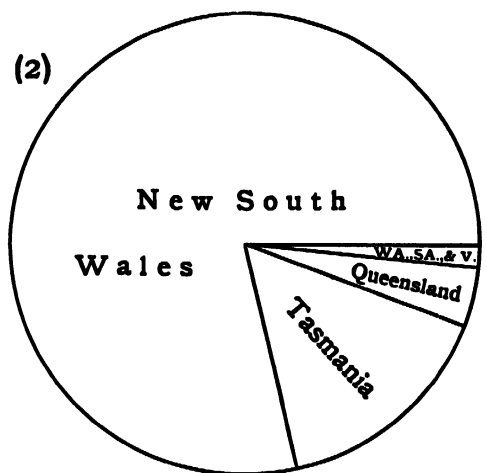
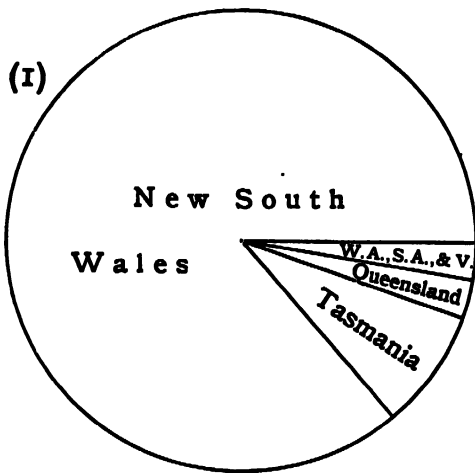
The accompanying circle diagrams show the relative numbers of (1) sheep, (2) cattle, and (3) horses in the states of Australia in a recent year. New South Wales, it will be seen, easily leads in the number of sheep, Queensland and Victoria coming next. In cattle the first place is taken by Queensland, with fully one-third of the total. New South Wales and Victoria come second and third respectively. New South Wales, Queensland, and Victoria are of practically equal importance in regard to number of horses.

The above circle diagrams show (1) the distribution among the individual states of the total pastoral production of the Commonwealth of Australia in a recent year, and (2) the distribution among the individual states of the total pastoral and dairy production of Australasia in the same year, the produce from poultry and apiculture being included. The total for Australia under (1) is £21,813,000, and that for Australasia under (2) is £42,963,000. The first diagram shows that New South Wales yields nearly one-half of the total pastoral production of the whole Commonwealth.

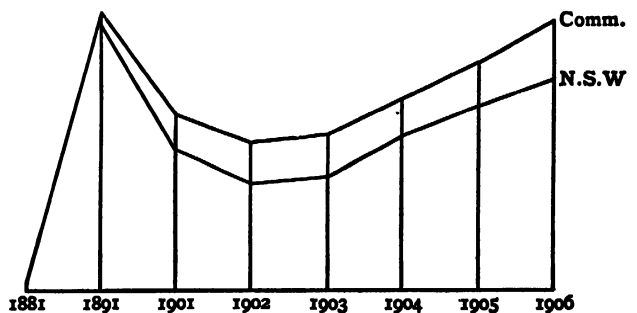
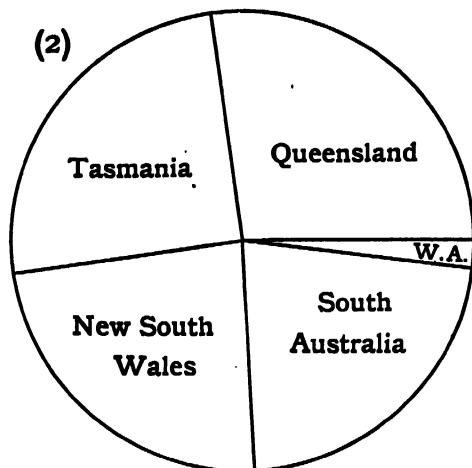
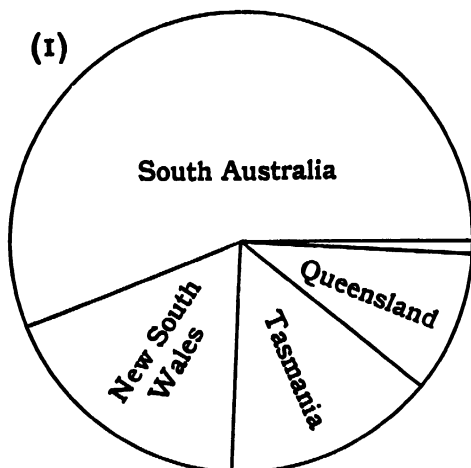
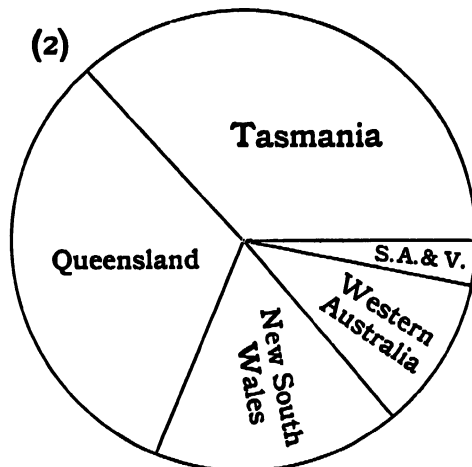
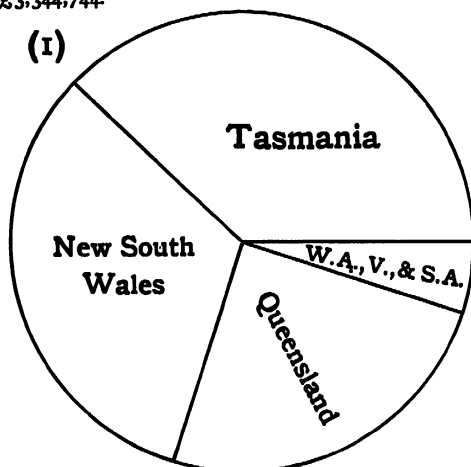
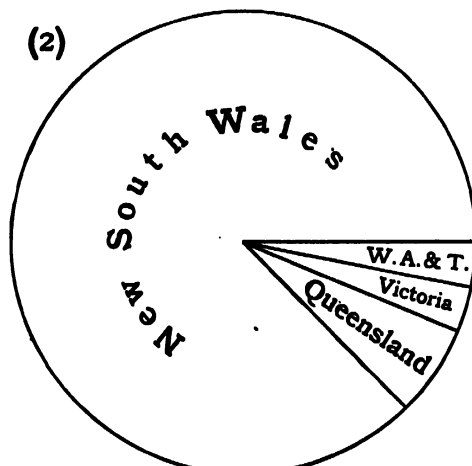
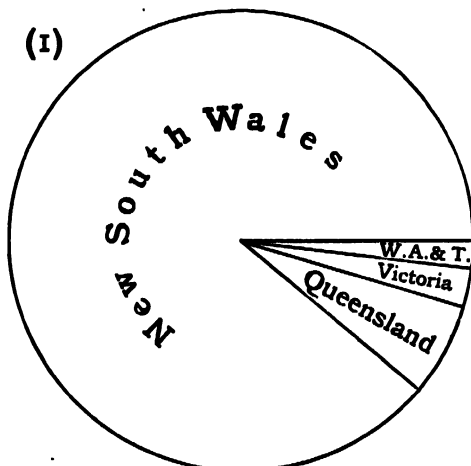
The following set of graphs shows the progress in the total output of pastoral and dairy produce, including

that from poultry and bees, during 1871–1902 in the chief pastoral states of Australasia and in the Commonwealth of Australia. The total value for the Commonwealth in 1902 was £32,621,000.

The following set of graphs shows the progress in the output of wool from the chief wool states of

Australia and from the Commonwealth in each of the years 1901 to 1906 inclusive. The output for the Commonwealth was 552,156,737 lbs. in 1906, a record output.

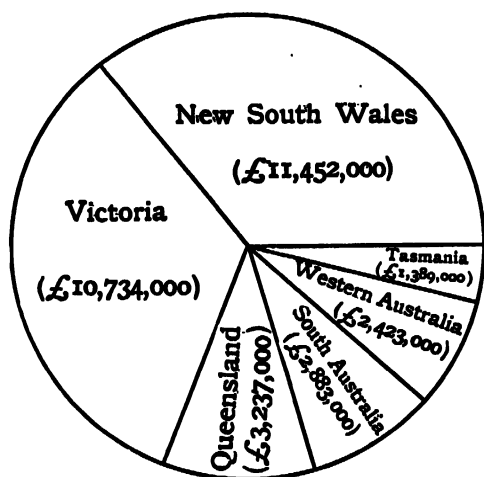
The accompanying circle diagram shows the distribution of the output of dairy and swine produce for Australasia among the individual states in a recent year. The total for Australasia is £11,347,000, of which £9,586,000 represents milk and its products, and the remainder the return obtained from swine. The diagram shows that Victoria, New Zealand, and New South Wales together account for more than three-fourths of the whole production. If quantity and not value be taken as the measure of relative importance in production, New Zealand stands first in respect of both butter and cheese.

Minerals

The above circle diagrams show the distribution among the states of Australia of (1) the total mineral output up to and including the year 1906, and (2) the total mineral output of the year 1906. The total value of minerals produced in 1906 was £26,643,298, of which £14,631,745 represents gold. The total value of minerals produced up to 1906 was £660,212,107, of which £474,913,048 represents gold.

The above circle diagrams show the shares of the principal minerals in the total mineral production of the Commonwealth of Australia (1) up to and including 1906, (2) in 1906. The total values are given under the immediately preceding diagrams.

The accompanying series of graphs show the total mineral output of each state of Australasia and of the Commonwealth of Australia at intervals from 1871 to 1902. The value for the Commonwealth has increased from £8,611,000 in 1871 to £21,732,096 in 1902; for New Zealand, from £3,100,000 to £3,221,622.

During the generation covered by the diagram the relative position of the states as producers of minerals has altered greatly. In 1871 Victoria was easily first, and New Zealand was second. By 1902 Western Australia had leaped to the first place, and New South Wales was second, after having for a time occupied first place. In 1906 New South Wales again just passed Western Australia. In 1906 Victoria was beaten by Queensland and New Zealand also. Tasmania made a fairly steady advance during the generation, but South Australia showed on the whole a declining tendency.

The above set of graphs shows the variation in the output of gold in the Commonwealth of Australia and its chief gold-producing states from year to year during the period 1851–1907, that is, from the beginning of gold mining in the continent to the present time. The output for the Commonwealth in 1907 was £13,509,345.

The diagram shows clearly the decline in the output of gold from Australia during the thirty years or so following the mid-century discoveries, and the steady increase in total output which has since been caused by the development of the Queensland deposits, and still more by the working of the rich fields of Western Australia. For long Victoria produced far more gold than any other Australian state, but Victoria is now far surpassed by Western Australia, which became of importance in this respect only about 1896. The output of the Commonwealth in 1903 constituted a record (£16,294,684).

The above circle diagrams show the distribution among the states of Australia of the total output of gold (1) up to and including 1907, and (2) in 1907. The total output up to 1907 was £488,422,392. The total output in 1907 was £13,509,345.

The above circle diagrams show the distribution among the states of Australia of the total output of silver and silver-lead (1) up to and including 1906, and (2) in 1906. The total output up to 1906 was £49,985,825. The total output in 1906 was £3,623,912.

The upper graph in the accompanying diagram shows the variation in the amount of silver and lead produced in the Commonwealth of Australia at various dates between 1881 and 1906. The lower graph shows the movement in the output from New South Wales alone. The output for the Commonwealth in 1906 was £3,623,912; for New South Wales alone it was £2,864,057. The chief centres of silver production in Australia are Broken Hill, in New South Wales, and Zeehan, in Tasmania. The Broken Hill field, a very rich one, was discovered in 1882, and the Zeehan one in 1885.

The above circle diagrams show the distribution among the states of Australia of the total output of copper (1) up to and including 1906, and (2) in 1906. The total values were: (1) up to 1906, £45,805,622; (2) in 1906, £3,344,744.

The above circle diagrams show the distribution among the states of Australia of the total production of tin (1) up to and including 1906, and (2) in 1906. The total values were £24,207,493 and £1,509,488 respectively.

The above circle diagrams show the distribution among the states of Australia of the total output of coal (1) up to and including 1906, and (2) in 1906. The value of the output in 1906 was £2,669,948; up to 1906, £56,374,418. The quantity produced in 1906 was 8,596,416 tons.

Manufacturing Industries

The following circle diagram shows the distribution among the states of the Commonwealth of Australia of

the total manufacturing output in 1902. The value of the total output for that year was £32,118,000.

The total number of the industrial class in the Commonwealth of Australia, according to the returns of the 1901 census, was 426,203. Of these, 267,726 were engaged in manufacturing industries, the others being employed in the construction or repair of buildings, railways, roads, &c., in the disposal of the dead or of refuse, and in various imperfectly-defined industrial pursuits.

The 267,726 persons engaged in manufacturing industries comprised 193,669 males and 74,057 females. They were distributed among the states thus:—

States.	No. in Manufacturing Industries, 1901.
New South Wales	94,119
Victoria	94,032
Queensland	32,134
South Australia	24,924
Western Australia	12,734
Tasmania	9,783
Commonwealth	267,726

They were distributed among the main groups of manufacturing industries thus:—

Manufacturing Industries.	No. of Persons, 1901.
Textiles, Dress, &c.	95,176
Art and Mechanic Productions	71,989
Minerals and Metals	45,222
Food, Drinks, Narcotics, and Stimulants	35,649
Animal and Vegetable Substances	15,719
Fuel, Light, &c.	3,971
Total	267,726

Fully 90 per cent of all the women employed in manufacturing industries come under the first of the above groups.

For obvious reasons the returns of the number of hands employed in factories give a considerably smaller number as engaged in manufacturing industries than the census returns. For 1902 the total number of factory hands for the Commonwealth was 200,017, comprising 154,775 males and 45,242 females. These were distributed among the states thus:—

States.	No. of Factory Hands.
New South Wales	66,269
Victoria	73,063
Queensland	20,958
South Australia	20,538
Western Australia	11,723
Tasmania	7,466
Commonwealth	200,017

These are also classified as follows:—

Class of Industry.	Number Employed. Males.	Females.
Clothing and Textile Fabrics and Materials	16,876	34,714
Metal Works, Machinery, &c.	38,323	91
Food and Drink, &c.	28,772	4,932
Books, Paper, Printing, and Engraving	14,076	3,403
Working in Wood	16,278	32
Processes in Stone, Clay, Glass, &c.	8,039	88
Vehicles and Fittings, Saddlery and Harness, &c.	7,660	67
Treating Raw Materials, the Products of Pastoral Pursuits, &c.	7,661	54
Furniture, Bedding, and Upholstery	5,031	399
Heat, Light, and Power	3,440	86
Drugs, Chemicals, &c.	1,711	484
Ship and Boat Building, &c.	2,014	12
Oils and Fats, &c.	1,681	72
Jewellery, Timepieces, &c.	1,082	39
All others	2,131	769
Total	154,775	45,242

The above classes of industry may be more fully defined as follows:—

Metal Works, Machinery, &c.: Especially engineering, ironworks and foundries (17,945 persons), railway and tramway works, smelting, agricultural implements, galvanized iron, tinsmithing, brass and copper, wire-working, stoves, ovens, and ranges.

Clothing and Textile Fabrics: Especially slop-clothing and tailoring (16,641), dressmaking and millinery (12,538), boots and shoes (12,194), underclothing, woollen-mills, hats and caps, rope and cordage, waterproof and oil-skin.

Food and Drink: Biscuits and confectionery, butter and cheese factories, meat-preserving, flour-mills, jam and fruit canning, pickles, sauces, and vinegar, sugar-mills, breweries, aerated-water works, tobacco-factories, &c.

Books, Paper, &c.: Especially printing and book-binding (15,809).

Working in Wood: Especially cooperage, joinery, and saw-milling (15,694).

Processes in Stone, &c.: Especially bricks and tiles (4815), glass (1263), lime, plaster, and cement (891), stone-dressing (554).

Vehicles, Saddlery, and Harness: Especially coach and wagon building (5258), saddlery and harness (1722), and cycles.

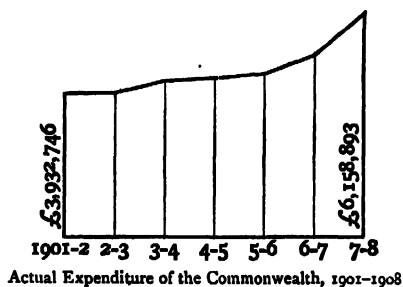
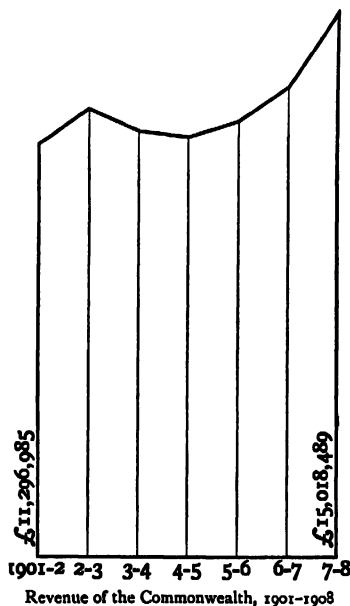
Treating Raw Materials, &c.: Especially tanning, wool-scouring, and fell-mongering (5299), and chaff cutting (2008).

Heat, Light, and Power: Especially glass-works and kerosene (1973), electric light and power (982).

Oils and Fats, &c.: Soap and candles (1486), oil and grease and glue.

Commonwealth Finance

A. The Course of Finance

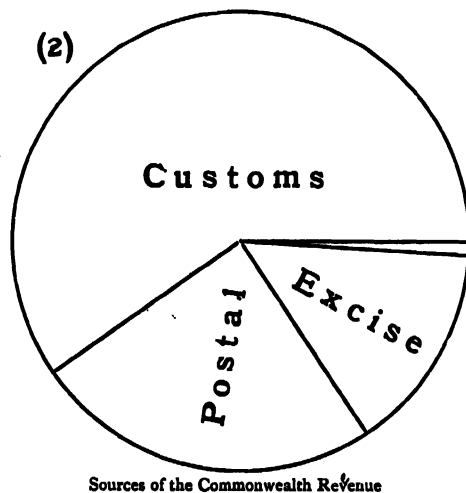
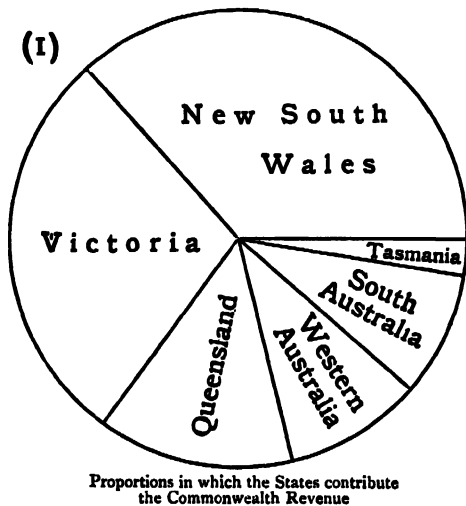
The following two graphs show the movement of the revenue and expenditure of the Commonwealth during 1901–1908:—

Revenue of the Commonwealth, 1901–1908

Actual Expenditure of the Commonwealth, 1901–1908

B. Revenue

The following circle diagrams show (1) the proportions in which the states contribute the revenue of the Commonwealth, and (2) the chief sources of the Commonwealth revenue and the proportions in which they contribute to the total:—

Proportions in which the States contribute the Commonwealth Revenue

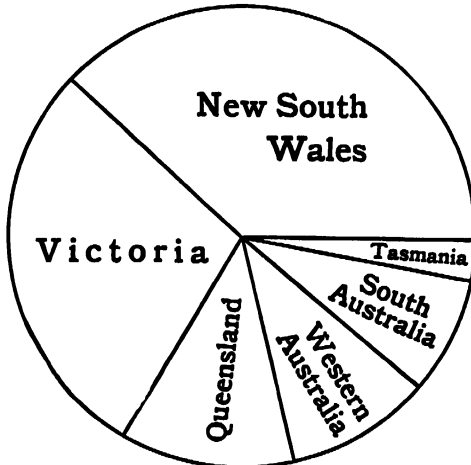
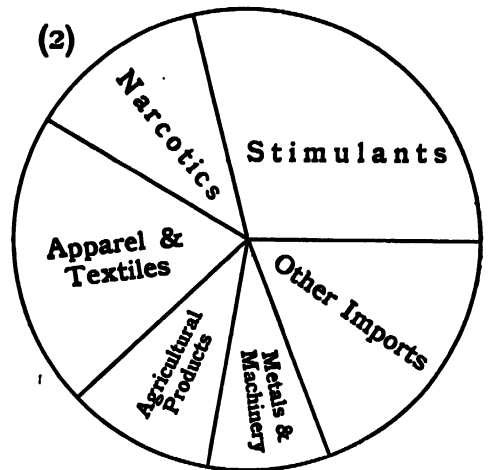
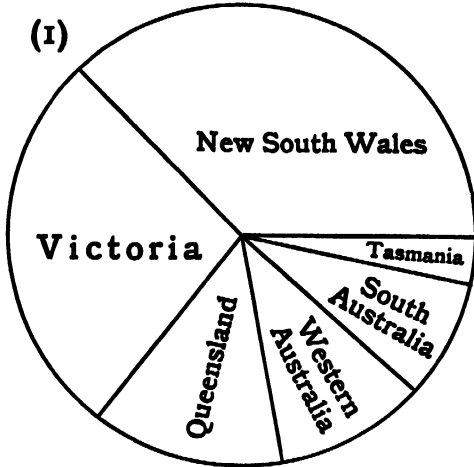
Sources of the Commonwealth Revenue

The following circle diagrams show, regarding the customs revenue, (1) the proportions in which it is contributed by the states, and (2) the proportions in which various kinds of commodities contribute to it:—

(1)

New South Wales
Victoria
Tasmania
South Australia
Western Australia
Queensland

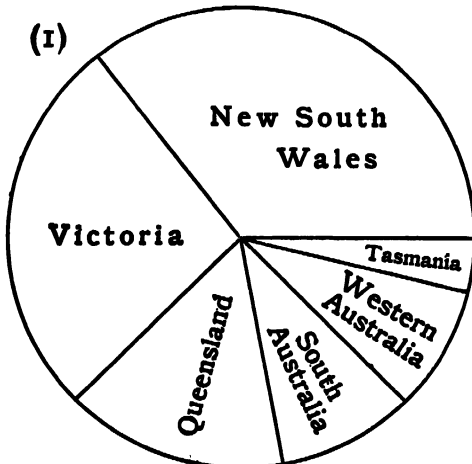
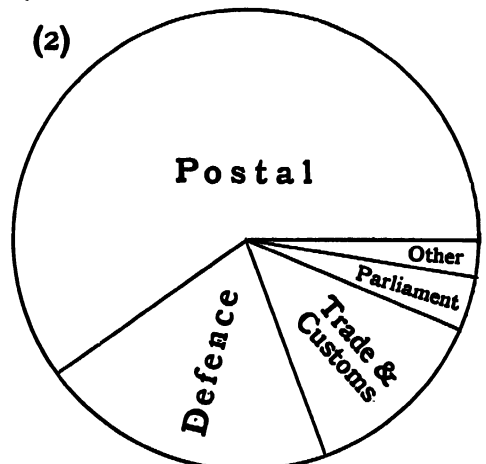
(2)

Narcotics
Stimulants
Apparel & Textiles
Other Imports
Agricultural Products
Metals & Machinery

New South Wales
Victoria
Tasmania
South Australia
Western Australia
Queensland

Proportions of Surplus Commonwealth Revenue returned to States

The accompanying circle diagram shows the proportions in which the surplus Commonwealth revenue was returned to the states in a recent year.

C. Expenditure

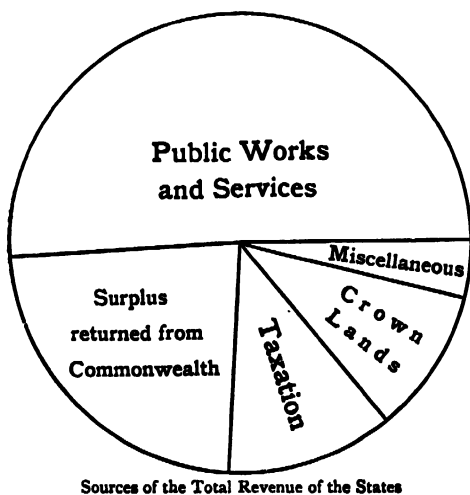
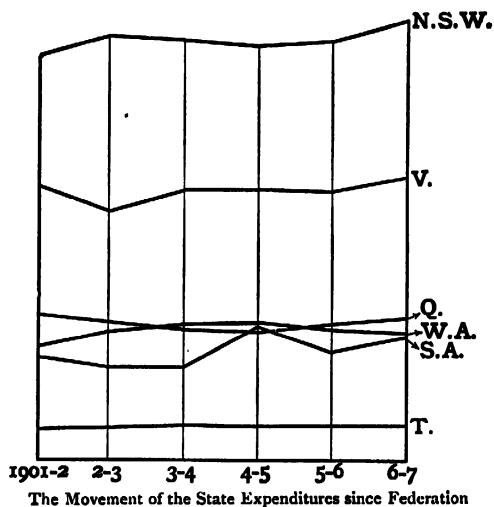
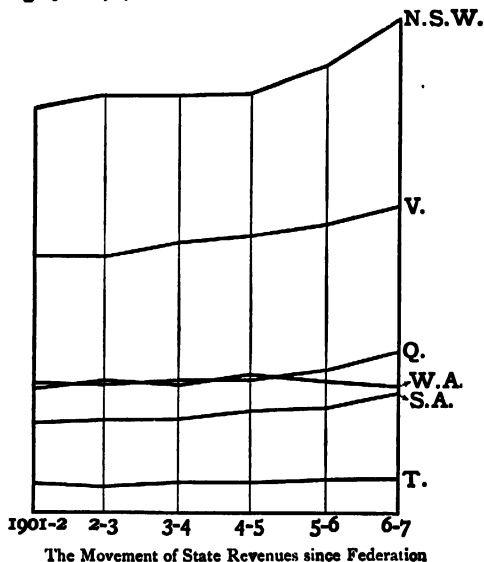
The following circle diagrams show (1) the proportions in which the Commonwealth expenditure is devoted to the states, and (2) the distribution of the Commonwealth expenditure on various services:—

Proportions in which Expenditure of Commonwealth is devoted to the States

Distribution of Commonwealth Expenditure on Various Services

State Finance

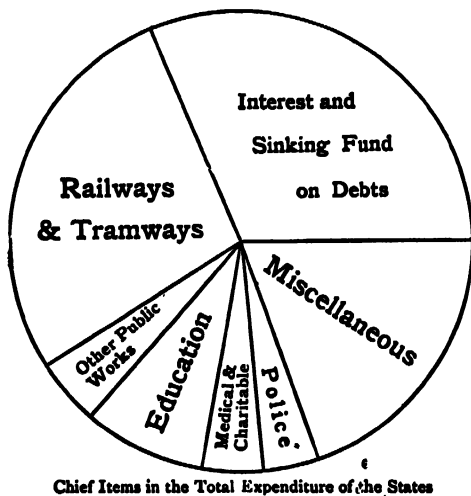
A. The Course of Finance

The following graphs show the movement of the revenue and expenditure in each state of the Commonwealth during 1901–1907:—

The Movement of State Revenues since Federation

The Movement of the State Expenditures since Federation

B. Revenue

The accompanying circle diagram shows the principal sources of the total revenue of the states of the Commonwealth, and the proportions in which they contribute to the total.

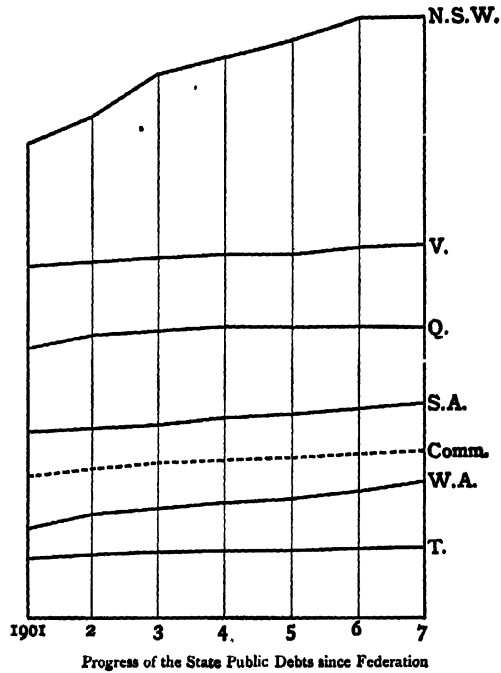
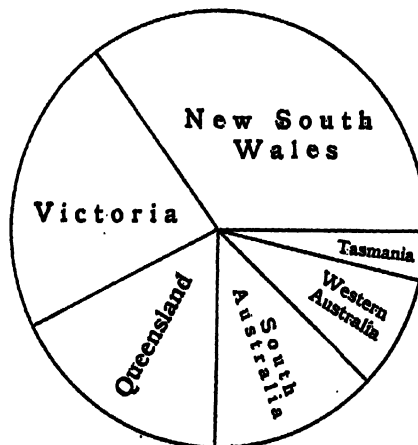
Sources of the Total Revenue of the States

C. Expenditure

The accompanying circle diagram shows the chief items in the total expenditure of the states of the Commonwealth, and their proportion to the total.

Chief Items in the Total Expenditure of the States

D. Public Debt

The following graphs show the movement in the public debts of the states of the Commonwealth during 1901–1907. The dotted graph shows the movement in the total debt of all the states to a scale one-tenth of that used for the separate states.

Progress of the State Public Debts since Federation

The following circle diagram shows the comparative magnitude of the public debt in the six Australian states:—

Comparative Amounts of Debt in the Australian States

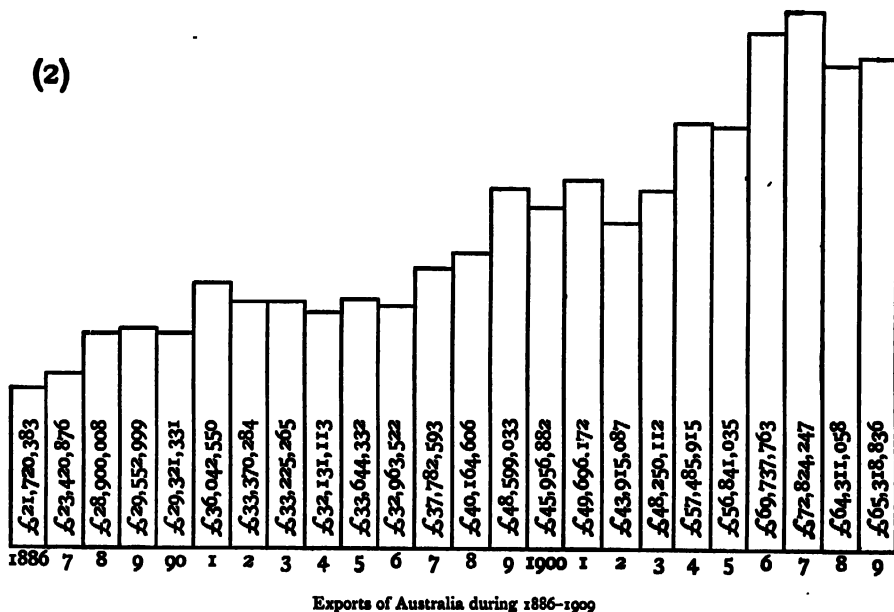
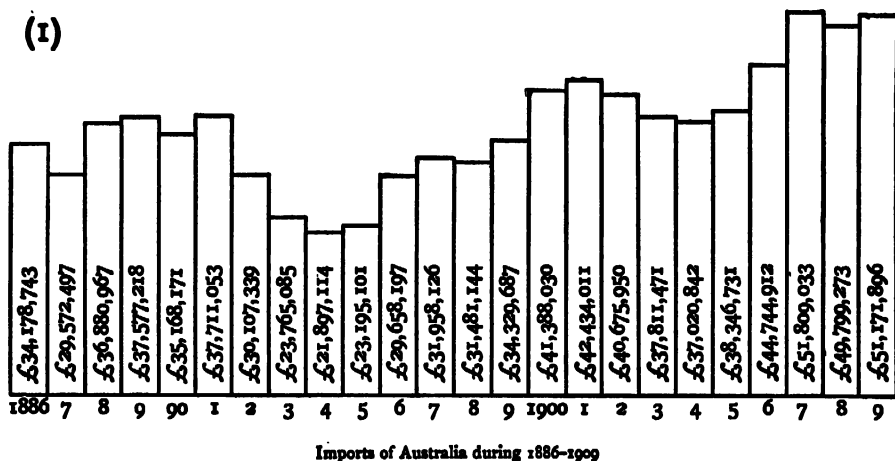
Commerce

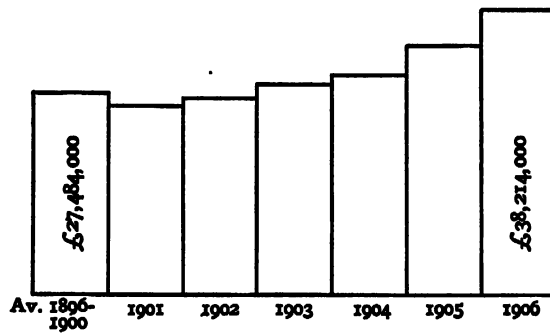
A. The Course of Trade

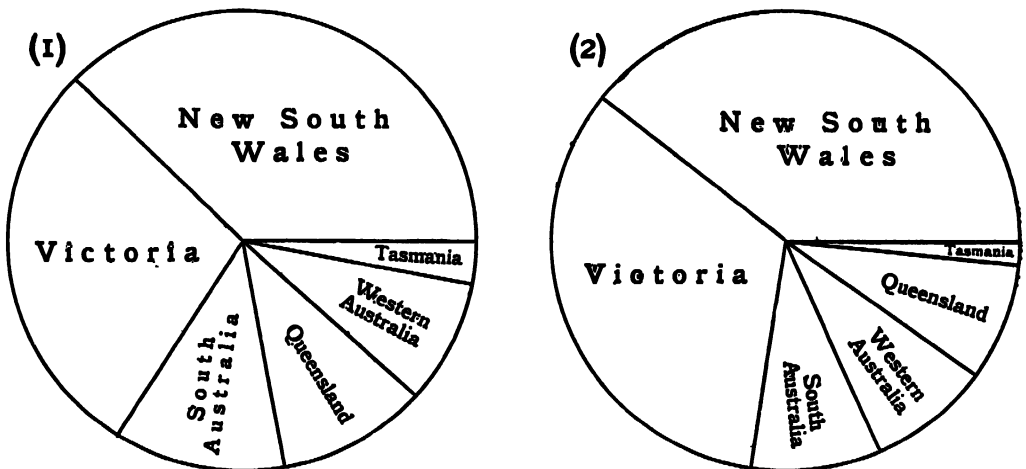
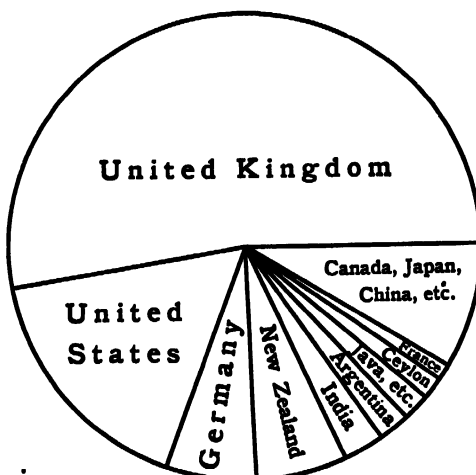
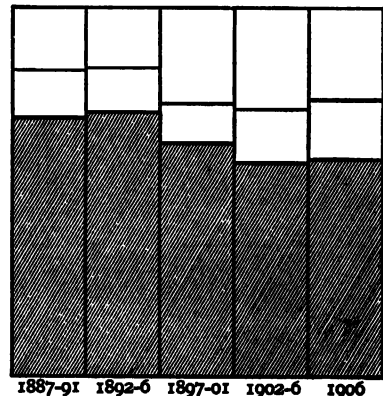
(1)

Imports of Australia during 1886–1909

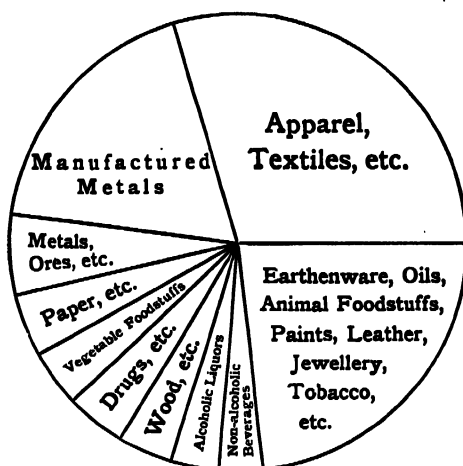
(2)

Exports of Australia during 1886–1909

The above diagrams show the movement of (1) the imports and (2) the exports of the Australian Commonwealth during the period 1886–1909. Bullion and specie are included in both cases, but the inter-state trade is excluded throughout.

The value of the total trade, import and export together, of the whole of Australasia was as follows at the dates mentioned: in 1825, £511,998; in 1841, £5,573,000; in 1851, £8,957,610; in 1861, £52,228,207; in 1871, £69,435,524; in 1881, £101,710,967; in 1891, £144,766,285; in 1901, £167,663,713. The value per head of the population was as follows at the same dates: in 1825, £10, 13*s.* 11*d.*; in 1841, £22, 4*s.*; in 1851, £18, 10*s.* 7*d.*; in 1861, £41, 19*s.* 10*d.*; in 1871, £35, 17*s.* 10*d.*; in 1881, £36, 12*s.* 7*d.*; in 1891, £37, 14*s.* 11*d.*; in 1901, £36, 11*s.* 8*d.* It will be noticed that an immense growth of trade followed the mid-century gold discoveries in Australia.

The above diagram shows the movement of the inter-state trade of the Commonwealth of Australia during the period 1896–1906. For the purposes of the diagram this trade has been calculated as an import trade.

B. Imports

The above circle diagrams show the distribution of the total imports of the Commonwealth of Australia among the constituent states, (1) the inter-state trade being included, (2) the inter-state trade being excluded.

The above circle diagram shows the relative importance of the chief countries as sources of the goods imported into Australia.

The above diagram shows the shares of Britain, the British Possessions, and Foreign Countries respectively, in the import trade of Australia during 1887–1906, according to the averages of quinquennial periods. The shaded part of each rectangle represents the British share, and the part immediately above it represents the colonial share.

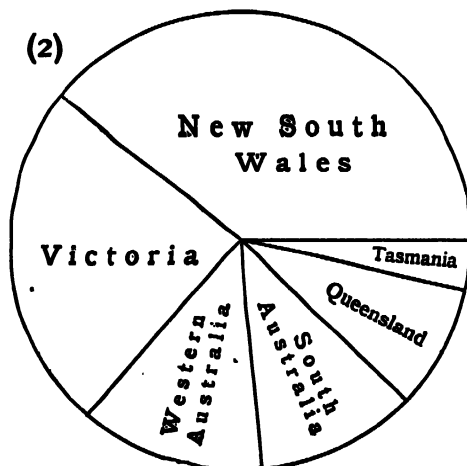
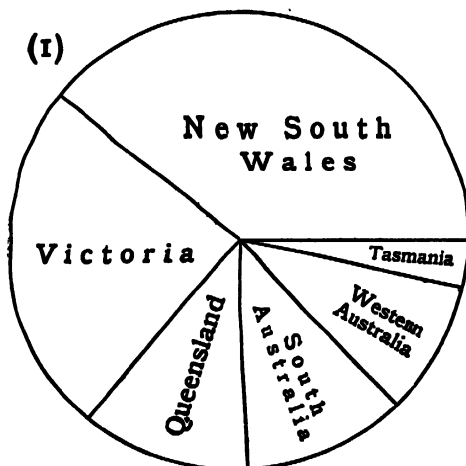
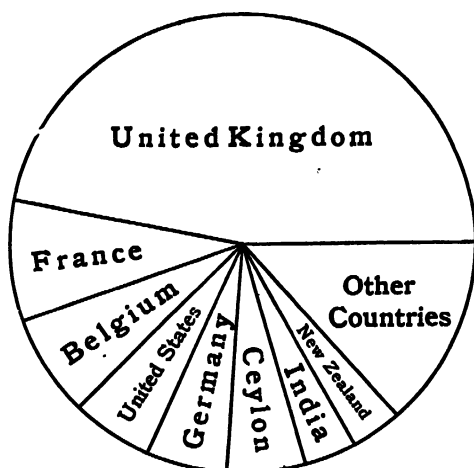
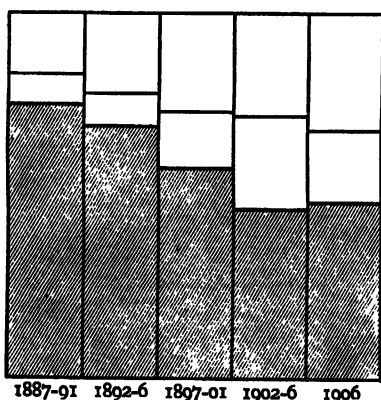
The following circle diagram shows the principal commodities imported into the states of the Common-

wealth of Australia, and their relative value according to the returns of a recent year. The inter-state trade has been excluded in the preparation of the diagram.

As one would expect from the present economic and industrial position of Australia, the commodities imported into the continent are mostly manufactured goods, notably textiles and clothing, machinery, iron and steel and their manufactures. The manufacturing industries of Australia are steadily developing, but they are as yet very far from supplying the needs of the home market. As has already appeared from earlier figures and diagrams, they are of a very varied character. The chief industrial states are New South Wales and Victoria.

The following diagram shows the principal countries of origin of each of the leading commodities imported

Commodity	Countries of origin
Apparel	United Kingdom; Germany; U.S.A. France etc.
Iron & Steel	United Kingdom; Germany; U.S.A.; Others
Machinery	United Kingdom; United States; Germany; Canada; Others
Woollens	United Kingdom; Germany; France &c
Cottons & Linens	United Kingdom; U.S.A.; Others
Alcoholic Liquors	United Kingdom; Germany; France; Others
Hardware etc.	United Kingdom; U.S.A.; Germany; Others
Railway & Tramway Materials	United Kingdom; U.S.A.; Germany
Timber	Norway & Sweden; U.S.A.; New Zealand; Canada; Others
Sugar	Java; Mauritius; China & Hong-Kong
Drugs etc.	United Kingdom; France; Germany; U.S.A.; Others

into the Australian Commonwealth, and their relative importance in this respect according to the returns of a recent year.

C. Exports

The above circle diagrams show the distribution of the total exports of the Commonwealth of Australia among the constituent states, (1) the inter-state trade being included, (2) the inter-state trade being excluded.

The above circle diagram shows the relative importance of the chief countries as receivers of the goods exported from Australia.

The above diagram shows the shares of Britain, the British Possessions, and Foreign Countries respectively, in the export trade of Australia during 1887-1906, by quinquennial averages. The shaded part of each rectangle represents the British share, and the part immediately above it represents the colonial.

The following circle diagram shows the principal commodities exported from the states of the Australian

Commonwealth, and their relative values according to the returns of a recent year. The inter-state trade has been excluded in the preparation of the diagram.

The following diagram shows the principal countries of destination of the leading commodities exported from

the states of the Australian Commonwealth, and their relative importance in this respect according to the returns of a recent year.

D. Trade with the United Kingdom

The following table shows the value of the trade of Australia with the United Kingdom in 1905-1909, according to Board of Trade returns:—

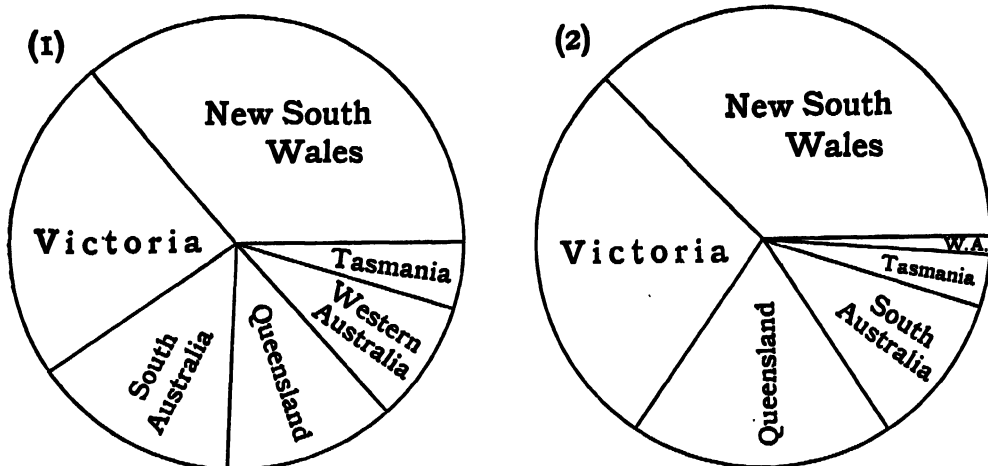
Year.	Imports of U. K. from Australia.	Exports (Native) from U. K. to Australia.	Re-exports.
1905 ...	£26,995,126 ...	£16,991,009 ...	£2,485,454
1906 ...	29,285,146 ...	20,228,836 ...	2,552,447
1907 ...	33,832,413 ...	24,096,655 ...	3,050,148
1908 ...	29,069,554 ...	22,942,415 ...	2,718,608
1909 ...	32,646,415 ...	23,998,845 ...	3,208,585

The principal British imports from Australia in 1909 were as follows: Wool, £13,668,466; wheat, £4,683,770; butter, £2,007,677; meat, £3,135,150; copper, £1,476,546; lead, £681,725; tallow and stearine, £1,126,896; tin, £652,473; gold ore, £379,600; timber, silver ore, sheep skins, leather, apples, flour.

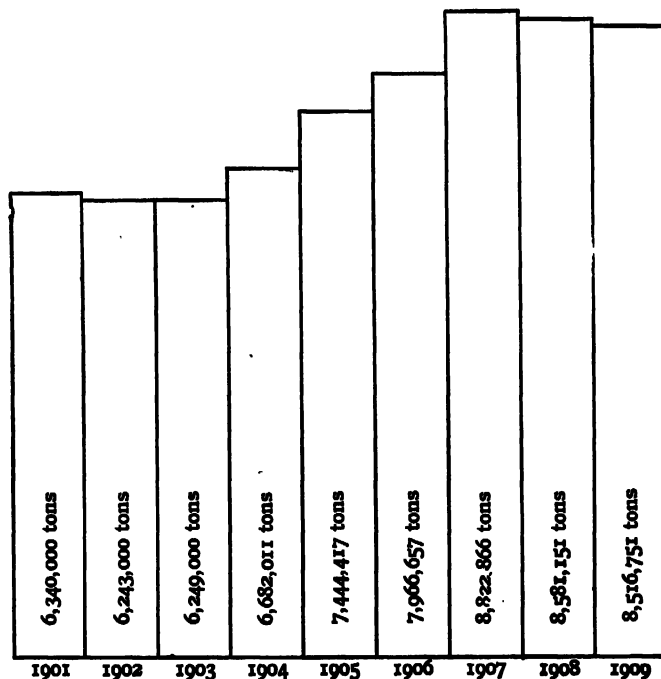
The principal commodities exported to Australia from the United Kingdom in 1909 were as follows: Cottons, £3,812,056; iron, wrought and unwrought, £3,879,952; woollens and worsteds, £2,191,843; machinery, £1,730,514; apparel, £635,608; spirits, £572,854, arms, books, chemicals, linens, paper, ships.

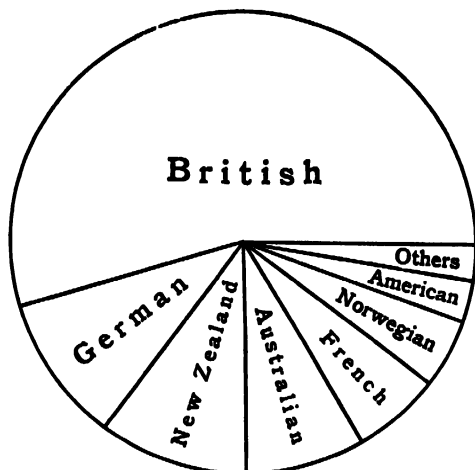
The principal foreign and colonial commodities re-exported from the United Kingdom to Australia were as follows in 1909: Silk goods, £643,616; woollen goods, £334,987; cotton goods, £513,635; leather goods, £140,135; arms, rubber, machinery.

In 1881 Australia supplied 23·9 per cent of the total value of imports into the United Kingdom from British possessions. In 1891 her share was 23.2 per cent; in 1901, 23 per cent; and in 1909 22.5 per cent.

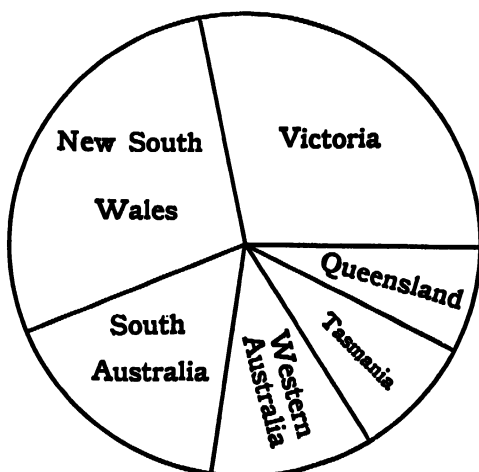
E. Inter-state Trade

The above circle diagrams show the distribution among the states of the Commonwealth of Australia of the inter-state trade when measured (1) as an import trade, (2) as an export trade. The distribution is according to the returns of a recent year.

New South Wales, Victoria, and Queensland export to the other states more than they receive from them, but the other three states, South Australia, Western Australia, and Tasmania, import more than they export, so far as inter-state trade is concerned. This is shown by a comparison of the two diagrams.

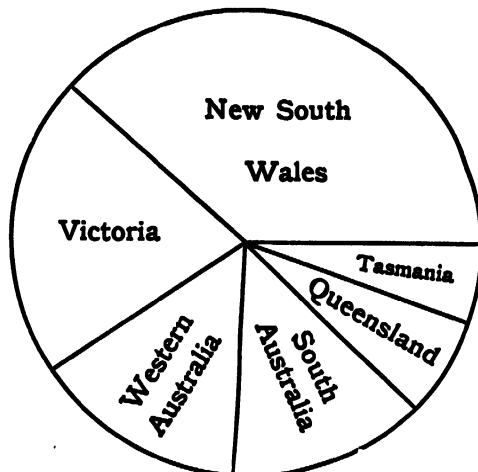
Shipping and Ports

The above diagram shows the movement of the total tonnage entered and cleared at the ports of the Australian Commonwealth since federation. The inter-state shipping is excluded. For the years 1901, 1902, 1903 the tonnage is estimated, as the only records then available were state records, and no exact materials for eliminating duplicate entries could be obtained.

The following circle diagram shows the distribution of the tonnage entered and cleared at the ports of

Distribution among chief flags of Tonnage entered and cleared at Australian Ports

the Commonwealth of Australia among the principal flags concerned, according to the returns of a recent year.

The following circle diagram shows the distribution among the states of the total inter-state shipping tonnage, entered and cleared together, according to the

Distribution among States of the Commonwealth of total Inter-state Shipping

returns of a recent year. In the case of Victoria, South Australia, and Western Australia the tonnage cleared is in excess of that entered; in the other cases the tonnage entered is the greater.

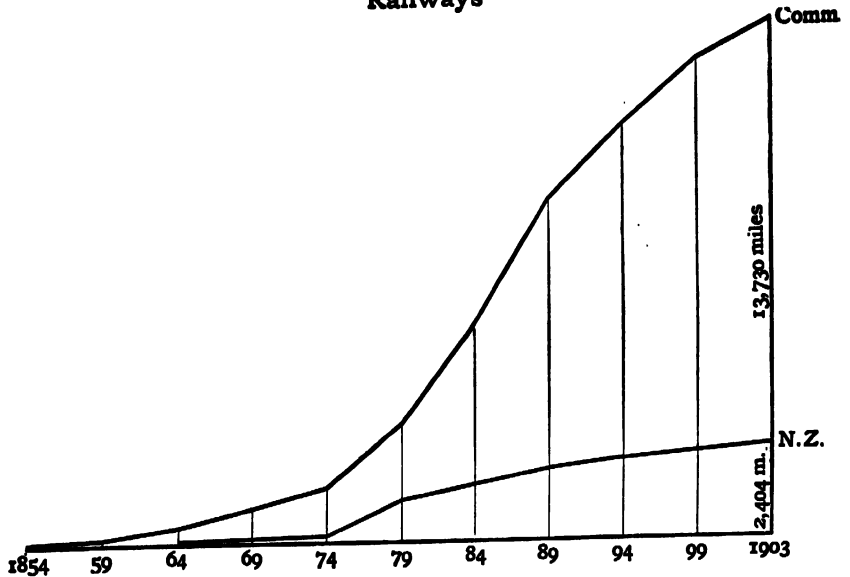
The following circle diagram shows the distribution among the states of the tonnage entered and cleared at Commonwealth ports in the external trade. The returns for Western Australia and South Australia are swollen out of proportion by the inclusion of the tonnage of the large mail steamers entered and cleared at Fremantle and Port Adelaide.

Distribution among States of Commonwealth of External Shipping, Tonnage entered and cleared

Victoria and New South Wales are practically equal in their share of inter-state shipping entered and cleared, but New South Wales is decidedly ahead of her rival in external shipping.

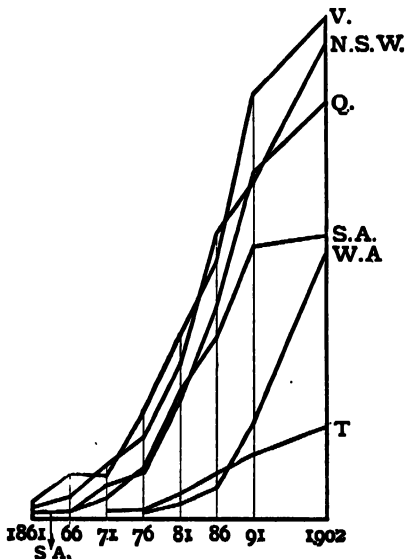
The following table gives a list of the principal ports of the Commonwealth of Australia, with the tonnage entered in each case. The inter-state shipping is included.

Ports.	Tonnage Entered.
Sydney (N.S.W.)	5,430,498
Melbourne (V.)	4,310,914
Port Adelaide (S.A.)	2,877,702
Newcastle (N.S.W.)	2,124,279
Brisbane (Q.)	1,645,422
Fremantle (W.A.)	1,556,444
Townsville (Q.)	872,393
Albany (W.A.)	763,456
Hobart (T.)	684,313
Rockhampton (Q.)	536,771
Mackay (Q.)	515,252
Geelong (V.)	477,228
Cairns (Q.)	468,271
Port Pirie (S.A.)...	359,030
Bowen (Q.)	291,336
Bunbury (W.A.)...	288,462
Launceston (T.)	243,875

Other ports are: Wollongong, Twofold Bay, Port Stephens, Clarence River (Yamba), Richmond River, Manning River, Camden Haven, Tweed River, Wentworth, Moama, and Swan Hill, in New South Wales (last three on Murray River); Portland, Echuca, and Mildura, in Victoria; Wallaroo, Port Caroline, Port Augusta, Beachport, Edithburgh, Port Germein, Port M'Donnell, Morgan, Port Victoria, and Port Darwin, in South Australia; Broome, Derby, Geraldton, and Vasse, in Western Australia; Burnie, Devonport, Stanley, Strahan, and Ulverstone, in Tasmania; Cooktown, Port Douglas, Gladstone, Maryborough, Bundaberg, Dungeness, and Normanton, in Queensland.

Railways

The above graph shows the expansion of the railway system in the Commonwealth of Australia and New Zealand since 1854. The total mileage in the Commonwealth is now over 15,300; in New Zealand, 2474.

The following set of graphs shows the growth of the railway system of each of the states of the Common-

wealth of Australia since 1861. The scale is considerably larger than that of the preceding diagram.

Posts and Telegraphs

In 1861 the Commonwealth of Australia had 993 post-offices. The number of letters and post-cards dealt with in that year was 13,564,265; of newspapers, 10,211,469. For a recent year the corresponding figures are: 5256 post-offices, 317,118,883 letters and post-cards, 103,838,931 newspapers.

The length of telegraph-lines in 1861 was 2382 miles for the Commonwealth; in a recent year it was 43,674 miles. The length of wire has increased in the same period from 3065 miles to over 130,000 miles. The number of telegrams was 10,144,983 in a recent year.

Administration

The Commonwealth of Australia comprises the six states of New South Wales, Victoria, Queensland, Tasmania, South Australia, and Western Australia. The legislative power is vested in a Federal Parliament, consisting of a Senate and a House of Representatives. The Senate consists of six senators for each of the original states, chosen for six years by the electors voting in each state, except Queensland, as one electorate. The House of Representatives consists, as nearly as may be, of twice as many members as the Senate, the members chosen by the states being proportional to their populations, subject to the condition that no original state shall have less than five. The present numbers are: New South Wales, 27, Victoria 22, Queensland 9, South Australia 7, Western Australia 5, Tasmania 5. The House is elected for three years. The executive power is vested in the Governor-General, representing the King, assisted by a council of ministers. The portfolios are: External Affairs, Trade and Customs, Attorney-General, Treasurer, Home Affairs, Defence, Postmaster-General. Each state has its own parliament for its own affairs.

NEW ZEALAND

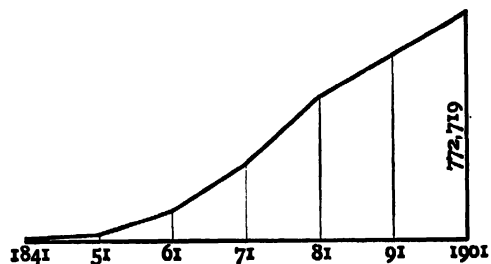
Area and Population

Provincial Districts.	Area in Sq. Miles.	Population (1891).	Population (1906).
NORTH ISLAND—			
Auckland	25,740	133,159	211,223
Taranaki	3,310	22,065	43,399
Hawke's Bay	4,413	28,506	42,242
Wellington	11,005	97,725	179,868
SOUTH (MIDDLE) ISLAND—			
Marlborough	4,755	12,767	14,368
Nelson	10,270	34,770	42,522
Westland	4,645	15,887	14,674
Canterbury	14,040	128,392	159,106
Otago (with Stewart Island)	25,480	153,097	180,974
Total New Zealand proper	103,658	626,368	888,376
Immediate Dependencies	813	290	202
Maories and Morioris ...	—	41,742	47,731
Cook and other annexed Pacific Islands	280	—	12,340
Grand Total... ...	104,751	668,400	948,649

Distribution of the Aboriginal Population

Islands.	Number of Maoris.
North Island	45,164
South Island	2,256
Stewart Island	109
Chatham Islands	202
Total	47,731

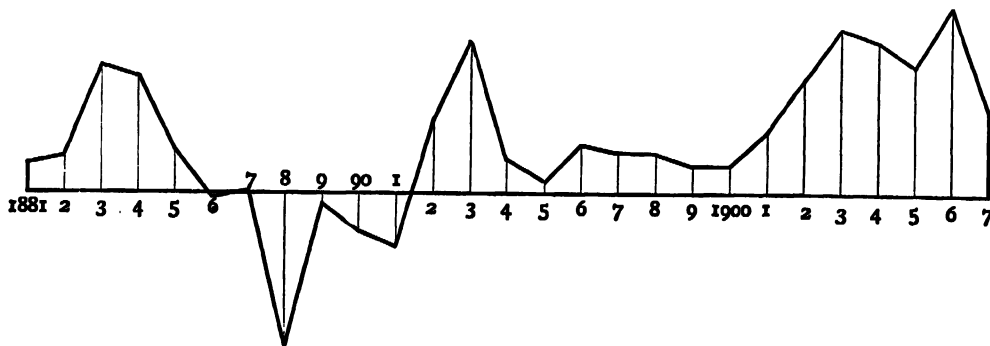
Movement of Population

The following graph shows the growth of the population of New Zealand (exclusive of Maoris) since 1841.

The vertical scale is twice that of the corresponding diagram for the Commonwealth of Australia.

The total increase in the population of New Zealand during the twenty-two years, 1885–1907, was 357,409, made up thus: Excess of Births over Deaths, 281,423; excess of Arrivals over Departures, 75,986.

The average annual rate of increase was 12.04 per cent in 1861–70, 6.92 per cent in 1871–80, 2.59 per cent in 1881–90, and 2.10 per cent in 1891–1900. The corresponding figures for the Commonwealth were: 3.76 per cent in 1861–70, 3.13 per cent in 1871–80, 3.47 per cent in 1881–90, and 1.80 per cent in 1891–1900.

The average density of population in New Zealand was 8.54 per square mile in 1906. In 1861 the density was only .95 per square mile.

The number of assisted immigrants who entered the colony prior to 1881 was 100,920; the number during 1881–1891 was 14,658; total, 115,578. Assisted immigration ceased in 1891.

The Balance of Emigration from and Immigration into New Zealand during the period 1881–1907

The above graph shows the net gain of the population of New Zealand from year to year during 1881–1907 by excess of immigration over emigration, or the net loss by excess of emigration over immigration. Ordinates below the line of dates denote a loss. The scale is four times that of the corresponding diagram for the Commonwealth of Australia.

The largest annual gain during the above period is that of 1906, when the number of arrivals exceeded the number of departures by 12,848. The largest annual loss is that of 1888, when the number of departures exceeded the number of arrivals by 10,548. It is interesting to note that the stoppage of assisted immigration in 1891 coincides with the end of a period of loss and the beginning of a period of gain.

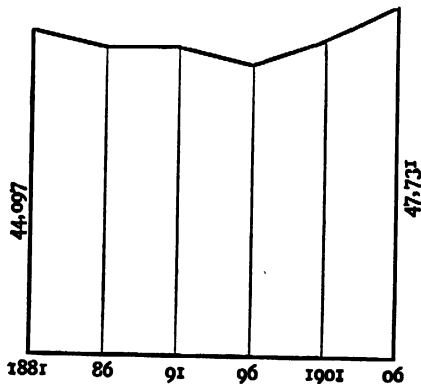
Population according to Race and Nationality

The following table shows the population of New Zealand in 1906 (exclusive of Maoris) according to country of birth:—

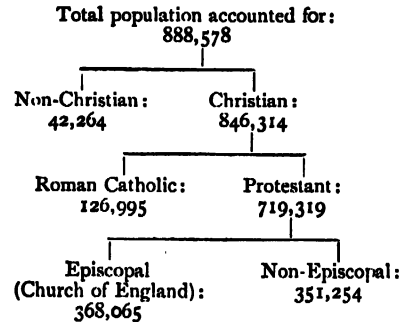
Country of Birth.	Number.
New Zealand	606,247
Australia and Fiji	47,536
United Kingdom	208,931
Other British Possessions	4,280
Germany	4,174
China	2,602
Other Foreign Countries	14,336
Others	472
Total	888,578

The following table shows the race-composition of the whole population of Zew Zealand in 1906:—

Race-Groups.	Number.
Europeans	883,430
Half-castes and persons of mixed blood living as and among Europeans	2,578
Chinese	2,570
Aboriginal Natives	43,793
Half-castes and persons of mixed blood living as and among Maoris...	3,938
Total	936,309

The following graph shows the movement of the Maori population during 1881–1906:—

Population according to Religion

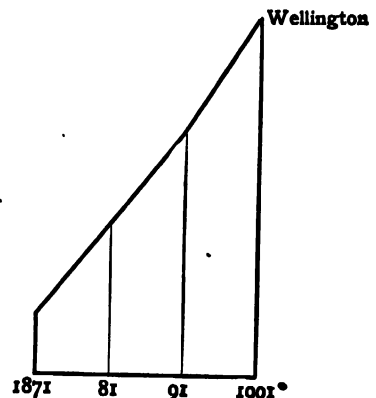
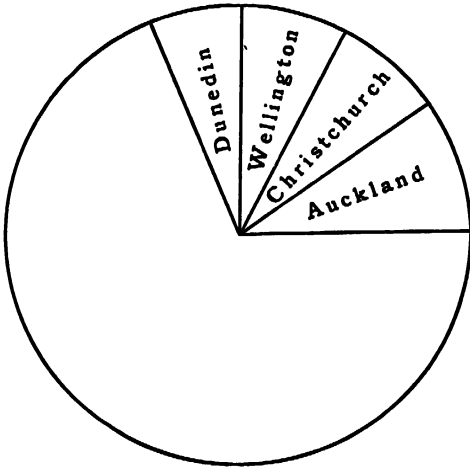
Denominations	Number, 1906.
Church of England	368,065
Presbyterians	203,597
Methodists	89,038
Baptists	17,747
Congregationalists	7,360
Lutherans	4,856
Unitarians	789
Salvation Army	8,389
Brethren	7,901
Church of Christ	7,061
Roman Catholics	126,995
Other Christians	4,516
Jews	1,867
Buddhists and Confucians	1,452
Freethinkers and Agnostics	3,850
All others (no creed, &c.)	35,095
Total	888,578

The main groups may be shown thus:—

See further under Australia.

Principal Towns

The following is a list of the principal towns of New Zealand, with their populations, in 1906:—

Towns.	Population.
Auckland (cap. prov. dist.)	82,101
Christchurch (cap. Canterbury)	67,878
Wellington (cap. prov. dist. and whole colony)	63,807
Dunedin (cap. Otago)	56,020
Invercargill (Otago)	11,582
Palmerston North (Wellington)	10,239
Napier (cap. Hawke's Bay)	9,454
Wanganui (Wellington)	8,175
Nelson (cap. prov. dist.)	8,164
Timaru (Canterbury)	7,615
Petone (Wellington)	5,893
Gisborne (Hawke's Bay)	5,664
Waihi (Auckland)	5,594
New Plymouth (cap. Taranaki)	5,141
Masterton (Wellington)	5,086
Oamaru (Otago)	5,071

Other places of importance or promise are: Thames, in Auckland; Hastings and Dannevirke, in Hawke's Bay; Blenheim, capital of Marlborough; Westport, in Nelson; Hokitika (cap.) and Greymouth, in Westland; Lyttelton, Port Chalmers, and North-east Valley, in Otago.

The above graph shows the expansion of the population of Wellington during the period 1871–1901.

The above circle diagram shows the proportion of the total population of New Zealand contained in the four cities, Auckland, Wellington, Christchurch, and Dunedin. The percentage for the four together is 30.36.

Climate

The following table gives some particulars of temperature and rainfall for a number of stations in New Zealand:—

Stations.	S. Latitude.	Mean Annual Temp. (° F.).	Mean Temp. of Warmest Month.	Mean Temp. of Coldest Month.	Annual Rainfall (Inches).
Auckland	36° 50′	59.3	66.6	51.9	43.6
New Plymouth...	39° 4′	—	—	—	57.7
Napier	39° 29′	58.8	66.5	50.1	36.2
Wellington	41° 16′	55.3	62.5	47.4	52.4
Nelson	41° 16′	55.6	64.3	45.8	59.9
Hokitika...........	42° 42′	53.1	60.2	44.8	117.5
Christchurch......	43° 32′	52.6	61.7	42.5	25.9
Dunedin...........	45° 52′	50.6	57.7	42.5	34.8

See the note to the Australian climate table.

The mean annual temperature of the North Island is 57° F., of the Middle Island, 52°. The seasonal means for the whole colony are: Spring, 55°; summer, 63°; autumn, 57°; winter, 48°.

The following table shows the distribution of rainfall in New Zealand:—

Annual Rainfall (Inches).	Area in Sq. Miles.
20–30	69,650
30–40	17,410
40–50	17,410

The mean annual rainfall of the colony is about 30 inches.

Principal Mountains

NORTH ISLAND—

Tararua Range, Ruahine Range, Te Whaiti Range, Raukumara Range (Mt. Hikurangi, 5606 ft.).

Maungaraki Mts., Puketoi Range.

Ruapehu (9008 ft.), Ngauruhoe (7515 ft.), Tongariro (6500 ft.).

NORTH ISLAND (*continued*)—

Tauhara (8400 ft.), Tarawera (3600 ft.).

Mt. Egmont (8260 ft.).

Titiraupenga (4000 ft.), Rangitoto (2600 ft.), Pataroa Range, Coromandel Range, Wairoa Range.

SOUTH ISLAND—

Southern Alps: Mt. Cook or Aorangi (12,349 ft.), Mt. Stokes (12,200 ft.), Mt. Hochstetter (11,200 ft.); Mts. Rolleston, Tyndall, Petermann, Sefton, Holmes, Ward.

Nelson-Marlborough Ranges: Inland and Seaward Kaikoura (Tapuaenuku, 9462 ft.); Spencer and St. Arnaud Ranges; Paparoa, Lyell, and Tasman Ranges (Mt. Arthur, 5093 ft., and Mt. Domett).

Otago Ranges: Haast Range and Forbes Mts. (Mt. Aspiring, 9940 ft., and Mt. Earnslaw, 9165 ft.); Eyre Range; Dunstan Mts. (Mt. St. Bathans, 6600 ft.); Umbrella Range, Lammerlaw Range, Hawkdun Mts., &c.

STEWART ISLAND—

Mt. Anglem (3200 ft.) and Rakeahau (2110 ft.).

Principal Glaciers

The following table gives some particulars of the chief glaciers of the Southern Alps:—

Name of Glacier.	Area in Sq. Miles.	Length in Miles.
Tasman	21.3	18
Murchison	9.1	10.9
Godley	8.3	8
Mueller	5	8
Hooker	3.8	7.3

Principal Rivers

NORTH ISLAND—

Piako (Firth of Thames).
Waihau or Thames (Firth of Thames).
Rangitaiki (Bay of Plenty).
Maimana (Bay of Plenty).
Wairoa (Hawke Bay).
Mohaka (Hawke Bay).
Ngaruroro (Hawke Bay).
Ruamahau (Palliser Bay).
Hutt (Port Nicholson).
Manawatu.
Rangitikei.
Wanganui (120 miles).
Waikato (170 miles).
Waipa (L.).

SOUTH ISLAND—

Wairau (Cloudy Bay).
Awatere.
Clarence.
Dillon.
Waimakariri.
Selwyn.
Rakaia.
Ashburton.
Waitaki.
Clutha (154 miles).
Rangitata.
New.
Waiau.
Grey.
Buller.

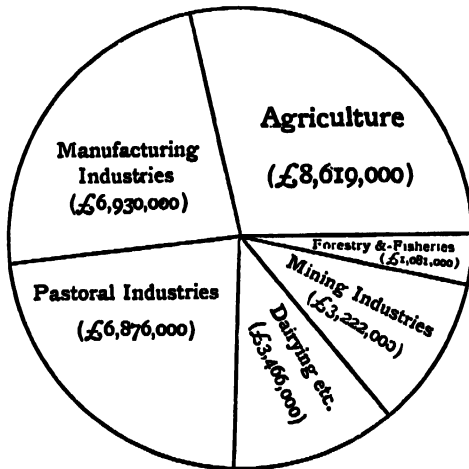
Principal Lakes

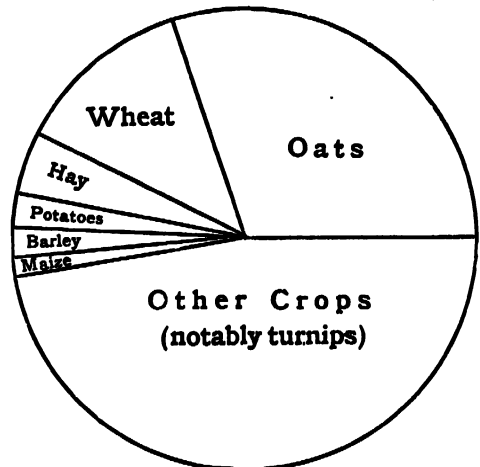
North Island: Taupo (200 sq. miles), Waikare, Tarawera, Rotomahana, Rotorua, Rotoiti.

South Island: Te Anau (132 sq. miles), Wakatipu (114 sq. miles), Wanaka, Hawea, Manipori, Haurota, Pateriteri, Pukaki, Tekapo, Oahu, Coleridge, Brunner, Karieri.

Employment and Production

The information given under this head in connection with Australia may be supplemented by the accompany-

ing circle diagram, showing the distribution of the total production among the leading kinds of production. The value of the total annual production of New Zealand is given as £30,194,000.

Agriculture

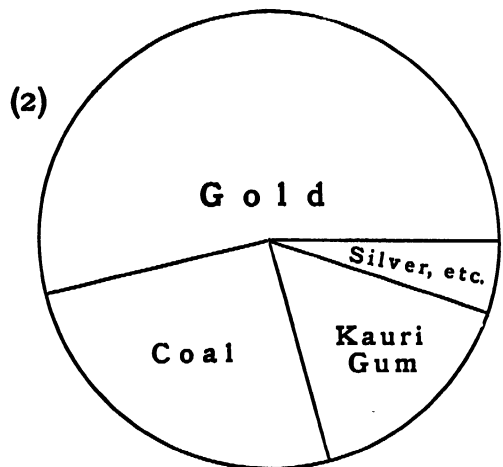
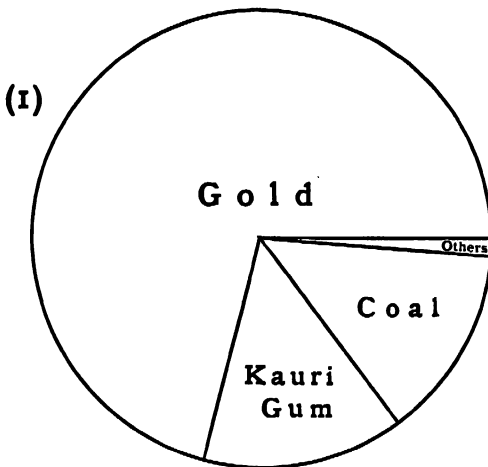
The principal facts regarding the agriculture of New Zealand have already been given under Australia, and it only remains to give the following circle diagram,

showing the distribution of the total cultivated area among the principal crops. The total area under grain crops, green crops, &c., in a recent year was 1,709,592 acres.

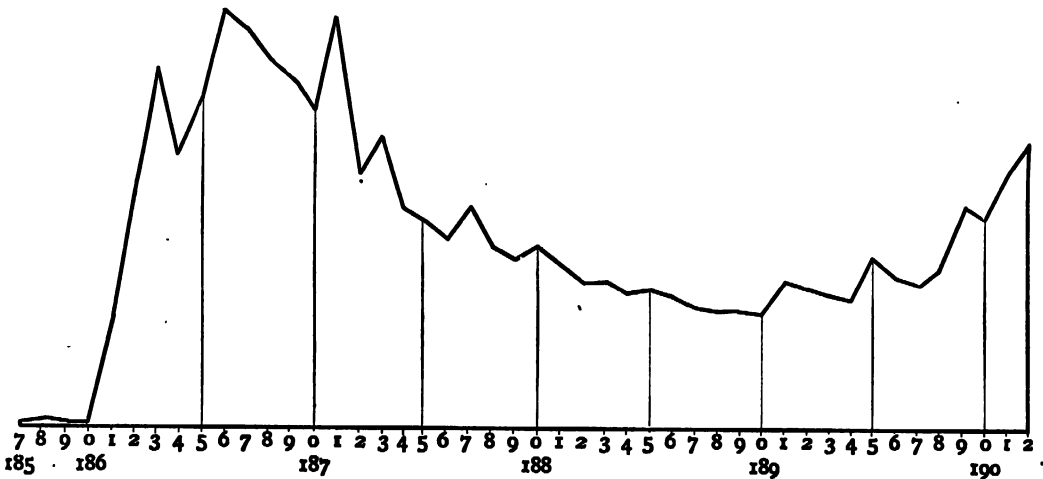
Minerals

(1)

Gold
Others
Coal
Kauri
Gum

(2)

Gold
Silver, etc.
Coal
Kauri
Gum

The above circle diagrams show the distribution among the chief minerals of the total mineral output of New Zealand (1) up to and including 1907, (2) for the year 1907. The respective totals are £100,523,086 and £3,775,835.

New Zealand is less important as a producer of minerals than some of the other states of Australasia. She has no tin, very little copper, and not much silver, but she produces a fair amount of gold and coal. A rush for gold about 1861 contributed to her early prosperity, and for ten years or so her output of the precious metal was considerable; but a decline set in, and continued till quite recently, when, owing to various causes, a revival of the gold industry took place. The early gold workings were all alluvial, but quartz-mining is now the mainstay of the gold-producer, although dredging in river-beds is also contributing more and more to the total output. New Zealand produces both lignite or brown coal and black or bituminous coal. Kauri-gum, usually classed with the minerals because of the circumstances under which it is found, is really a vegetable product.

The above graph shows the progress in the value of the annual production of gold in New Zealand from year to year during the period 1857–1902. The scale is four times that of the corresponding diagram for Australia.

Manufacturing Industries

The total number of the industrial class in New Zealand, according to the returns of the 1901 census, was 101,184. Of these, 60,819 were engaged in manufacturing industries, the rest being employed in the construction or repair of buildings, railways, roads, &c., in the disposal of the dead or of refuse, and in various imperfectly-defined industrial pursuits.

The 60,819 persons engaged in manufacturing industries comprised 45,245 males and 15,574 females. They were distributed among the main groups of manufacturing industries. Thus:—

Manufacturing Industries.	Number of Persons, 1901.
Textiles, Dress, &c....	22,410
Art and Mechanic Productions	19,425
Minerals and Metals	8,293
Food, Drinks, Narcotics, and Stimulants...	7,659
Animal and Vegetable Substances...	2,449
Fuel, Light, &c.	583
Total	60,819

As in Australia, fully 90 per cent of all the women employed in manufacturing industries come under the first of the above groups.

The number of hands employed in factories in New Zealand in 1901 was 48,718, comprising 38,094 males and 10,624 females. These were classified thus:—

Class of Industry.	No Employed.	
	Males.	Females
Clothing and Textile Fabrics and Materials	5,874	8,546
Food and Drink, &c.	6,760	679
Working in Wood...	7,104	10
Metal Works, Machinery, &c.	6,404	13
Books, Paper, Printing, and Engraving	2,960	662
Treating Raw Materials, the Products of Pastoral Pursuits, &c.	2,357	7
Vehicles, Saddlery, Harness, &c.	2,197	40
Furniture, Bedding, and Upholstery	1,382	73
Processes in Stone, Clay, Glass, &c.	1,146	1
Heat, Light, and Power ...	657	150
Ship and Boat Building, &c.	393	81
Oils and Fats	239	8
Drugs, Chemicals, &c.	174	33
Jewellery, Timepieces, &c.	19	—
All Others ...	428	321
Totals	38,094	10,624

Fuller particulars of the above classes of industry may be given as follows:—

Clothing and Textiles: Especially slop clothing and tailoring (4133), dressmaking and millinery (2913), boots and shoes (2696), flax-mills (1698), woollen-mills (1693), shirts, ties, and scarfs, hosiery.

Food and Drink: Especially meat-preserving (2420), butter and cheese factories (1188), brewing (682), biscuits (668), aerated waters, sugar-refining, flour-mills, confectionery.

Working in Wood: Especially saw-milling (6812).

Metal Works, &c.: Especially engineering, ironworks and foundries (3402), railway and tramway workshops (1626), agricultural implements, tinsmithing, galvanized iron, stoves and ranges.

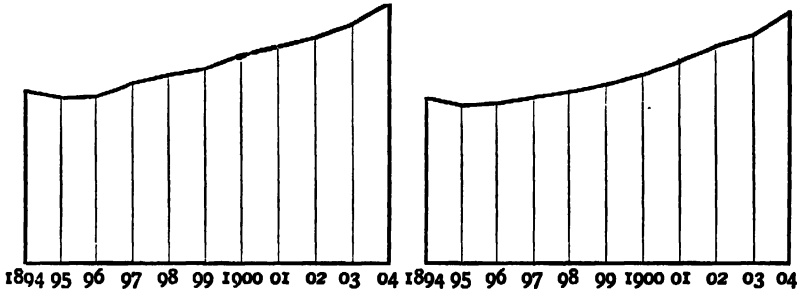
Books, &c.: Especially printing and bookbinding (3438).

Treating Raw Materials: Especially tanning, woolscouring, and fellmongering (1963).

Vehicles, &c.: Especially coach and wagon building (1185), saddlery and harness, and cycles.

Stone, Clay, Glass, &c.: Especially bricks and tiles (838).

Finance

A. The Course of Finance

The accompanying graphs show the movement during 1894–1904 of the revenue and expenditure respectively of New Zealand.

B. Revenue

The following table shows the principal sources of the revenue of New Zealand for a recent year:—

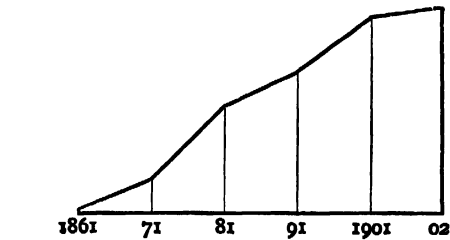
Sources of Revenue.	Amount.
Customs Duties	£3,103,565
Beer Duty	113,973
Stamps (with Posts and Telegraphs) ...	1,550,934
Land Tax	537,846
Income Tax	304,905
Railways	2,765,395
Registration and other Fees	129,166
Marine Dues	42,217
Miscellaneous	218,342
Territorial Revenue	289,603
Other Receipts	725,868
Total	£9,781,814

C. Expenditure

The following table shows the principal heads of the expenditure of New Zealand for a recent year:—

Heads of Expenditure.	Amount.
Salaries of Governor and Ministers ...	£21,692
Legislative	62,795
Interest and Sinking Fund	2,187,427
Exchange and Commission	29,486
Pensions...	62,375
Old-age Pensions	330,802
Railways	1,963,428
Public Instruction	843,311
Postal and Telegraph Services ...	707,146
Judicial and Legal	352,163
Hospitals and Charitable Institutions	145,999
Defence	214,670
Agriculture	144,989
Lunatic Asylums	82,785
Valuation Department	33,096
Public Health Department	33,253
Tourist Department	33,979
Territorial Expenditure	342,168
All other Expenditure	1,422,401
Total	£9,013,965

D. Public Debt

The following graph shows the growth of the public debt of New Zealand during 1861–1902. The amount

of the debt was £55,899,019 in 1902; in 1908 it was £66,453,897.

The following table shows the character of the public debt of New Zealand in 1908:—

Rate of Interest.	Amount.
Overdue	£3,000
3 per cent	9,858,670
3½ per cent...	16,945,170
3¾ per cent...	349,000
4 per cent	38,868,957
4½ per cent...	52,900
5 per cent	321,000
6 per cent	55,200
Total	£66,453,897

The average rate of interest on the debt is 3.73

Private Property

The following circle diagram shows the distribution of property in New Zealand among the different kinds.

Commerce

A. The Course of Trade

(1)

£7,974,038 £7,663,888 £7,479,921 £6,759,013 £6,245,515 £5,941,900 £6,308,863 £6,260,525 £6,503,849 £6,943,056 £6,911,515 £6,788,020 £5,400,129 £7,137,320 £8,055,223 £8,230,600 £8,739,633 £10,646,096 £11,817,915 £11,326,723 £12,788,675 £13,291,694 £12,828,857 £15,211,403 £17,302,861 £17,471,284 £15,674,719

1883 4 5 6 7 8 9 90 1 2 3 4 5 6 7 8 9 1900 1 2 3 4 5 6 7 8 9

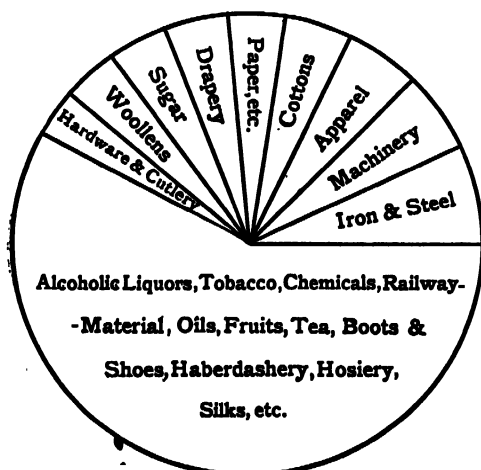
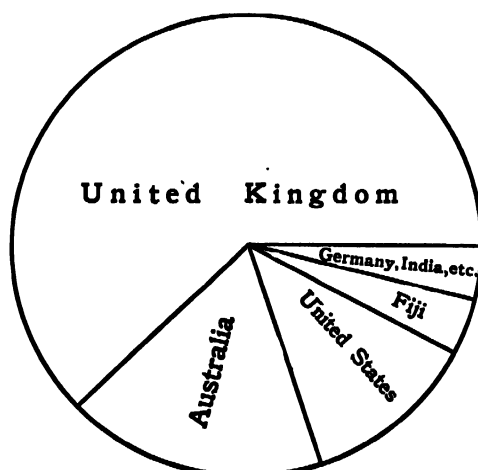
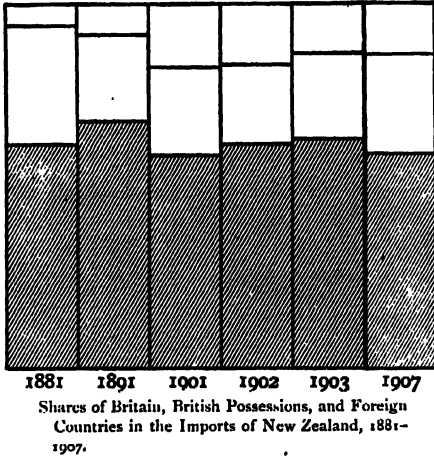
(2)

£7,095,999 £7,091,667 £6,819,939 £6,672,791 £6,866,169 £7,767,325 £9,341,864 £9,811,720 £9,566,397 £9,534,851 £8,985,364 £9,231,047 £8,550,224 £9,321,105 £10,016,993 £10,517,955 £11,938,335 £13,246,161 £12,881,424 £13,644,977 £15,010,378 £14,748,348 £15,655,947 £18,095,137 £20,068,957 £16,317,494 £19,661,996

1883 4 5 6 7 8 9 90 1 2 3 4 5 6 7 8 9 1900 1 2 3 4 5 6 7 8 9

The above diagrams show the movement of (1) the imports, and (2) the exports of New Zealand during the period 1883–1909. Bullion and specie are included in both cases.

B. Imports

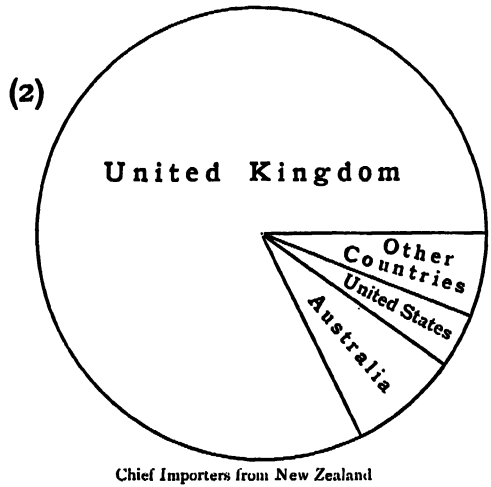
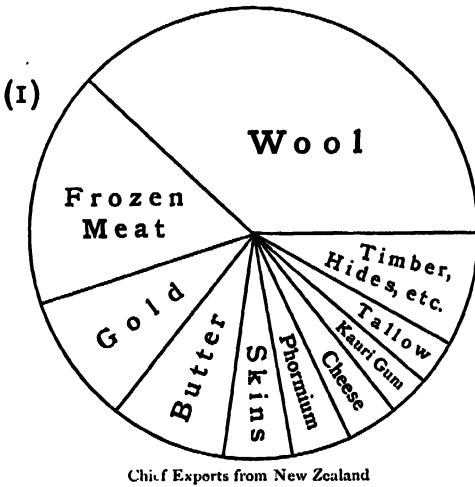
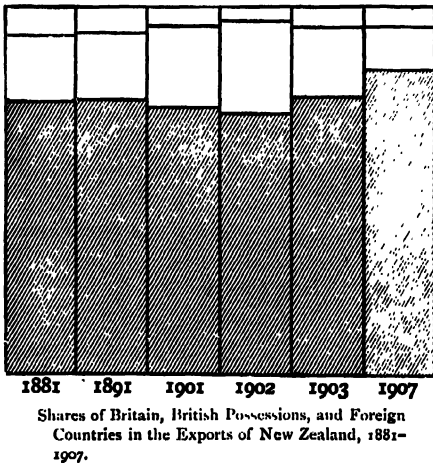
The following circle diagram shows the principal commodities imported into New Zealand in a recent year.

The following circle diagram shows the principal countries of origin of the imports into New Zealand, according to the returns of a recent year:—

Shares of Britain, British Possessions, and Foreign Countries in the Imports of New Zealand, 1881–1907.

The accompanying diagram shows the shares of Britain, British Possessions, and Foreign Countries in the import trade of New Zealand for various years during the period 1881–1907. The shaded part of each rectangle represents the British share, and the section immediately above it represents the colonial share.

According to the Board of Trade returns, Britain exported to New Zealand, in 1909, native produce to the value of £7,351,619, and re-exported foreign and colonial produce to the value of £729,803. The exports were similar to those sent to Australia.

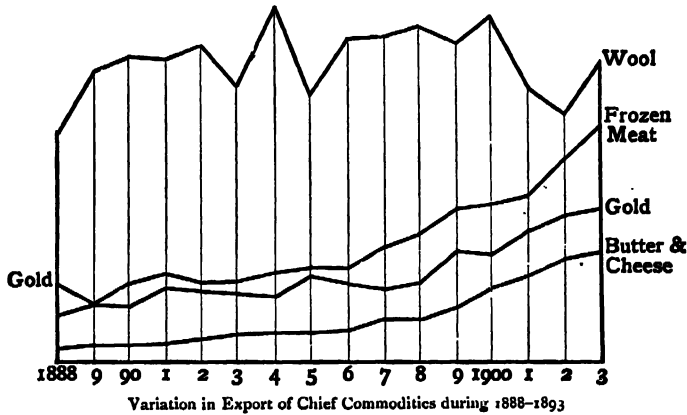
C. Exports

Chief Exports from New Zealand

Chief Importers from New Zealand

The above circle diagrams show (1) the principal commodities exported from New Zealand, and (2) the principal countries of destination of the exports from New Zealand.

Shares of Britain, British Possessions, and Foreign Countries in the Exports of New Zealand, 1881–1907.

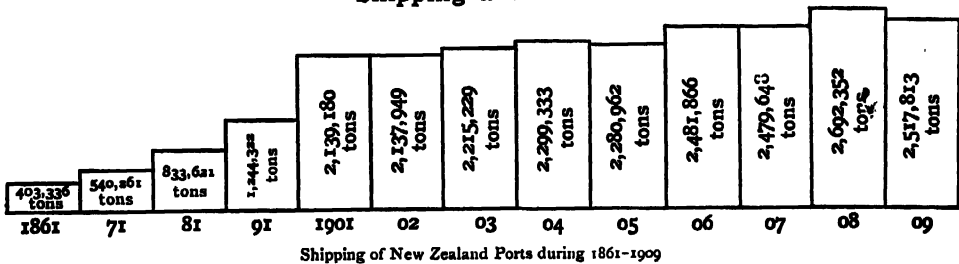
The accompanying diagram shows the shares of Britain, the British Possessions, and Foreign Countries in the export trade of New Zealand at various periods during 1881–1907. The shaded part of each rectangle represents the British share, and the space above it represents the Colonial share.

British imports from New Zealand in 1909 were valued, according to the Board of Trade returns, at £17,730,866. The principal commodities were: wool, £6,935,431; mutton, £3,499,053; butter, £1,472,219; hemp (phormium), dressed or undressed, £229,233; tallow and stearine, sheep skins, kauri-gum, cheese, beef.

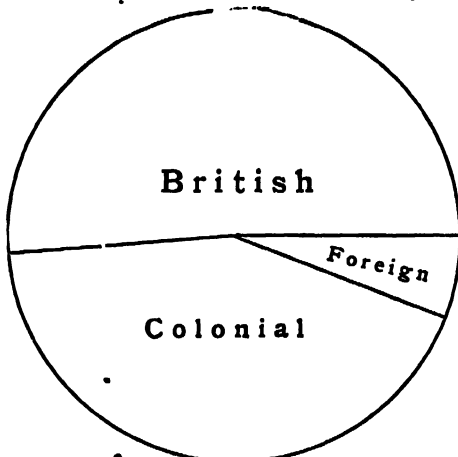
Variation in Export of Chief Commodities during 1888–1893

The above series of graphs shows the variation in the value of the export of certain commodities from New Zealand during the period 1888–1903.

The wool export has fluctuated considerably during the period chosen, and does not, on the whole, show a progressive tendency; but the trade in frozen meat and in butter and cheese is steadily expanding. Mutton is the principal variety of meat exported in the frozen state, although beef is also of some importance.

Shipping and Ports

Shipping of New Zealand Ports during 1861–1909

The above diagram shows the growth in the total tonnage of shipping entered and cleared together at all the ports of New Zealand during the period 1861–1909.

The following circle diagram shows the distribution among the chief flags concerned of the total tonnage entered at the ports of New Zealand in a recent year:—

Nationality of Shipping entered at New Zealand Ports

The following table shows the principal seaports of New Zealand, with the value of the total trade at each, and the tonnage of shipping entered at some, in a recent year:—

Ports.	Total Trade. £	Shipping Entered. Tons.
Wellington	6,704,653	293,725
Auckland	5,668,790	471,403
Lyttelton	4,695,940	45,748
Dunedin	4,550,799	69,275
Napier	1,127,232	
Invercargill	1,107,337	131,683
Timaru	1,056,102	——
Gisborne	608,381	——
Wanganui	583,852	——
Greymouth	506,714	——
New Plymouth	498,499	——
Oamaru	344,449	——
Patea	284,554	——
Nelson	251,293	——

Other seaports of less importance are: Wairoa, Picton, Hokitika, Kaipara, Westport, Waitara, Tauranga, and Thames.

Railways, Posts, and Telegraphs

For the growth of the railway system of New Zealand see under *Australia*.

In 1861 the number of letters and post-cards dealt with by the New Zealand post-offices was 1,236,768; of newspapers, 1,428,351. For a recent year the corresponding figures were: 92,136,573 letters and post-cards, 25,417,073 newspapers, besides 24,583,602 books and parcels.

The first telegraph-office in New Zealand was opened in 1862. In 1871 the length of line was 2015 miles; in a recent year it was 9656 miles. The length of wire has increased in the same period from 3287 miles to 29,344 miles. The number of telegrams despatched in a recent year was 7,042,923.

Administration

The legislative power in New Zealand is vested in a General Assembly of two chambers, namely, the Legislative Council and the House of Representatives. The Legislative Council consists of about forty-five members, those appointed prior to September 17, 1891, being life members, and those appointed since holding office for seven years. The House of Representatives consists of eighty members, including four Maoris, elected by universal suffrage for three years. The authority of the Crown is represented by a Governor, appointed by the King in Council. He is assisted by a responsible ministry of about eight members.